



# **NAVAL POSTGRADUATE SCHOOL**

**MONTEREY, CALIFORNIA**

## **THESIS**

**DEVELOPING THE BENCH: BUILDING AN EFFECTIVE  
HOMELAND SECURITY UNDERGRADUATE PROGRAM**

by

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March 2008

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**DEVELOPING THE BENCH: BUILDING AN EFFECTIVE HOMELAND  
SECURITY UNDERGRADUATE PROGRAM**

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## **ABSTRACT**

The current Homeland Security (HLS) workforce is aging, and the future need is growing. Academia has a significant role in the development of HLS future leaders. This thesis uses a meta-analysis to define what academia's role should include. The meta-analysis utilized a template of common HLS rubric, then used systematic study of existing core curriculum, topics in frequently used HLS texts, opinions of HLS leaders, opinions of Emergency Managers, and the opinions of community college students. The study of existing curriculum reflects the topical choices of current academic program directors, from which one could draw conclusions based on popular adoption. The topics in commonly used texts were categorized with the rubric template, and then scored by frequency. The three surveys consisted of a prioritization of the rubric template topics from very important to very unimportant. HLS leaders were queried to capture the leader's future view of workforce educational needs. Emergency Managers were queried to capture what the current practitioners view as important. And community college students were queried to identify what future students view as important in further education. The net result of the meta-analysis is a recommendation of nine specific topical areas, of interest to current or potential HLS undergraduate programs.

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# **I. DEVELOPING THE BENCH: STRUCTURING AN EFFECTIVE HOMELAND SECURITY UNDERGRADUATE PROGRAM**

The need to protect the homeland and to respond to domestic disasters will not fade away. If indicators prove accurate, the demands on the homeland security (HLS) profession will only increase over time. The responsibilities of HLS leaders are twofold: leaders need to act to preserve the American quality of life and they need to be part of that preservation for the long term. It is the latter responsibility that shapes the overarching focus of this research. One of the dominant tasks facing the HLS leader of today is the development of tomorrow's leaders, or "the bench." The metaphor is valuable in that the bench consists of tomorrow's leading players. There is an expectation that to qualify to be on the bench, members have acquired a certain base level of knowledge, skill, and ability. The bench is the source of future primary resources.

The model for bench development (and the source of the metaphor) used here comes from the Oregon National Guard, where leaders recognized that theirs was a transient group. A total career lasts about twenty to twenty-five years; roles in senior leadership typically are assumed in the latter 25% of a career. Senior command positions usually last about two years. All of these factors combine to create a constant influx of new senior leadership. National Guard leaders realized that, for the sake of continued positive growth in the organization, they had to take affirmative steps to develop leaders from the beginning of their careers through their ascension as senior leaders, a process and group referred to as the bench. This process increased confidence in the ever-emerging group of new leaders. The Oregon National Guard developed an active plan for this continuous development process.

The development of the bench for HLS is a growing concern. The current workforce is aging, pushing ever closer to retirement, while the total number of job positions is growing. Development of the future leader pool is multifaceted, and the pieces of this responsibility fall into several areas. This study of bench development will focus on the role academia plays in developing future leaders.

Academia's continuum of contributions to the development of the HLS bench stretches from the basic functional training level through the doctoral level. For example, the Federal Emergency Management Agency (FEMA) provides extensive training for HLS practitioners. At this practitioner level, 119 colleges sponsor associate degree or certificate programs in HLS. At the postgraduate academic level, there are 59 dedicated HLS postgraduate level programs. In contrast, there are thirty-five dedicated baccalaureate programs,<sup>1</sup> making this the least-supported area in the HLS academic continuum. It is also the area that may have one of the highest future demands as part of bench development. Entry and mid-level management jobs are expected to be plentiful and will create high demand for baccalaureate-level HLS education.

Among the current college and university programs, there is no common convention. Curriculum is inconsistent, as is demonstrated by a survey of nineteen baccalaureate homeland security programs listed on the Center for Homeland Defense and Security (CHDS) website. Only three of the 19 include a course on intelligence in their curriculum. There is no agreement on definitions of HLS topics, nor agreement on necessary core courses. Like-named academic programs in different institutions are seldom carbon copies. By contrast, a person with an undergraduate degree in engineering or accounting is expected to have certain baseline knowledge of the discipline, regardless of which institution granted the degree. In fields such as medicine, the arts, or education, this basic standardization is accomplished through the accreditation process. Per the U.S. Department of Education,

The goal of accreditation is to ensure that education provided by institutions of higher education meets acceptable levels of quality. Accrediting agencies, which are private educational associations of regional or national scope, develop evaluation criteria and conduct peer evaluations to assess whether or not those criteria are met. Institutions

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<sup>1</sup> Center for Homeland Defense and Security (CHDS), *Colleges & Universities Offering Homeland Security Programs*, (Monterey: CHDS, n.d.), <http://www.chds.us/?partners/institutions&i=certificate> (accessed June 19, 2007).

and/or programs that request an agency's evaluation and that meet an agency's criteria are then 'accredited' by that agency.<sup>2</sup>

There is no agreement on commonly expected knowledge needed by future homeland security leaders and what belongs in undergraduate programs. It is important for academia to have a common baseline of HLS knowledge, such as could be developed through an accreditation process. As HLS education develops the pool of future leaders, there should be an expectation that this pool consistently possesses certain baseline knowledge of the discipline. A common educational core curriculum could produce this baseline. Recommendations regarding this curriculum will be made based on research conducted for this thesis.

#### **A. THE NEED FOR HLS ACADEMICS**

A report to the president on Hurricane Katrina lessons learned identified the need for a strategy to address homeland security professional development and education. The report recommends that these programs focus on all hazards to include terrorism, natural disasters, accidents, and other disasters.<sup>3</sup>

According to Glen Woodbury, "Emergency management leaders need an academic, not just experiential, knowledge base of...natural and manmade hazards...[to develop] the deep understanding necessary...to effectively develop and implement *strategic* efforts to mitigate threats or to properly prepare for the response and recovery from their consequences."<sup>4</sup> Woodbury's statement tends to counter the belief that there is no need for HLS education at the undergraduate level. Since the bachelor degree is the most prevalent education level among emergency managers, it would follow that a degree should be available in this field.

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<sup>2</sup> U.S. Department of Education, *U.S. Department of Education Database of Accredited Postsecondary Institutions and Programs*, (Washington, D.C.), <http://www.ope.ed.gov/accreditation/> (last accessed August 8, 2007).

<sup>3</sup> The White House, *The Federal Response to Hurricane Katrina - Lessons Learned* (Washington, D.C.: The White House, 2006), [http://www.whitehouse.gov/reports/katrina-lessons-learned/appendix\\_a.html](http://www.whitehouse.gov/reports/katrina-lessons-learned/appendix_a.html) (accessed January 23, 2007).

<sup>4</sup> Glen L. Woodbury, "Critical curriculum for emergency management leaders," *Journal of Emergency Management* (March/April 2005): 27.

While programs at all levels are needed, a baccalaureate curriculum may be the area of greatest need. Placed on a linear scale, associate-level programs are the most plentiful, followed by postgraduate and, finally, undergraduate programs. According to the CHDS website, there are 119 certificate and associate programs, fifty-one postgraduate programs, but only 35 undergraduate programs.<sup>5</sup> The associate and certificate programs are focused on the practitioner. The postgraduate programs are designed for the academic and/or senior leader. Bachelor-level programs would educate emerging and mid-level leaders in the thought process and strategic view necessary to develop future HLS leaders, forming the core of the discipline and the “bench.” The lesser number of available programs indicates that the undergraduate level is most in need of focused attention.

According to a National Emergency Managers Association (NEMA) survey of emergency managers, over half of the current emergency managers who responded to the survey have a bachelor’s degree.<sup>6</sup> This demonstrates the current academic standard among emergency managers from which one could extrapolate the potential needs of future HLS leaders.

Finally, the goal driving a robust national effort to enhance undergraduate HLS education is to develop future HLS employees and to educate current employees as the leaders of tomorrow. This effort need not take the form of advanced higher education that serves the existing senior leader or academician, but it would provide the foundation for leadership development.

## **B. THE DEMAND FOR THOSE ON THE BENCH**

According to the U.S. Department of Labor’s *Occupational Outlook Handbook*, emergency management is one of the top five fastest growing occupations relying on

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<sup>5</sup> CHDS, *Colleges & Universities Offering Homeland Security Programs*.

<sup>6</sup> National Emergency Management Association, *NEMA Profile of State Emergency Management Directors and Their Agencies* (Washington, D.C.: NEMA, 2007), 12-13, <http://www.nemaweb.org/?1814> (accessed April 2, 2007).



experience in a related field.<sup>7</sup> The current emergency management workforce is aging and the number of opportunities in related fields is increasing. If efforts are not taken today to develop future homeland security leaders from emergency management professionals, future needs may not be met by those waiting to be called from the bench.

The professions of HLS and emergency management are inextricably linked. There may be some discord over the boundaries between the historical discipline of emergency management and the emerging discipline of homeland security, but this does not negate their interconnectedness. Secretary of Homeland Security Michael Chertoff highlights the extent to which the two disciplines are connected: “The Department of Homeland Security was created to unify national capabilities against all hazards – from hurricanes to dirty bombs and earthquakes to pandemic flu...”<sup>8</sup> Secretary Chertoff did not draw a distinction between those who prepare for natural disasters and those who prepare for disasters resulting from the ill intent of our enemies.

In many cases, the only robust pool of data deals with emergency managers and is not fully inclusive of HLS professionals. Although there is a developing body of literature on HLS, it is such a new field of study that much information is still to be revealed. Because of this, some of the indicators used in this thesis are drawn from emergency management data. There is sufficient overlap in interests and responsibilities between the emergency manager and the HLS leader to justify using the emergency management data to indicate certain trends, such as age of the existing work force.

### **C. EDUCATION VERSUS TRAINING APPROACH**

Although both the tactical and strategic approaches have their value, future leaders in the discipline of homeland security will be required to learn theory, strategy, critical thinking, and evolution (education), rather than how to mitigate a certain kind of disaster (training). This was clearly shown in the lessons learned from Hurricane Katrina, the report on which stated: “It should expand students’ understanding of the strategic

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<sup>7</sup> U.S. Department of Labor, “Fastest Growing Occupations,” *Occupational Outlook Handbook, 2006-2007* <http://www.bls.gov/oco/ocotjt1.htm> (accessed June 11, 2007).

<sup>8</sup> Secretary Michael Chertoff, *Testimony before the Senate Committee on Homeland Security and Governmental Affairs*, 109<sup>th</sup> Congress, 2<sup>nd</sup> Session, September 12, 2006, 2.

aspects of homeland security and counterterrorism planning, policy development, incident management, and support functions, among other topics.”<sup>9</sup> Note that this was written in a report about a natural disaster.

The studies that have been done on HLS education vary in how they address the need for HLS education. FEMA’s Emergency Management Institute (EMI) provides a great deal of tactical training, i.e., how to conduct exercises, how to prepare for hurricanes, or how to build disaster resistant buildings.<sup>10</sup>

HSDEC recommendations illustrate a slant towards education as opposed to training. Their research shows that of the required courses in 268 HLS program, seventy were HLS oriented, 27 were policy oriented, and twenty-five were terrorism oriented.<sup>11</sup> These were the top three commonalities of the curricula studied. That research resulted in a review of existing programs and recommendations for the future. HSDEC made the following categorical curriculum recommendations:

- Current and emerging threats
- Context and organization
- Policies, strategies, and legal issues
- Process and management.

John Rollins and Joe Rowan have identified specific challenges in developing baccalaureate curriculum. First, within the academic community there is no commonly agreed upon definition for “homeland security.” Second, of existing courses, there is not necessarily a correlation between programs labeled homeland security and their course content. Some programs leverage classes that existed before the HLS program was developed. When the HLS program was initiated, these previously existing courses were amalgamated into the new program and sometimes simply renamed. Third, there is no accrediting body for homeland security programs. Accreditation would establish a

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<sup>9</sup> The White House, *The Federal Response to Hurricane Katrina - Lessons Learned*.

<sup>10</sup> Emergency Management Institute, *EMI Courses and Schedules* (Emmitsburg, MD: FEMA, 2007), <http://training.fema.gov/EMICourses/EMICourse.asp> (accessed June 15, 2007).

<sup>11</sup> Homeland Security/Defense Education Consortium, *Core Curriculum Recommendations*, <http://www.hsdec.org/research.aspx> (accessed June 15, 2007).

minimum standard for HLS programs and identify which institutions have met this standard. And finally, a diploma in homeland security does not have a commonly accepted value within the profession.<sup>12</sup>

If the homeland security discipline develops undergraduate education programs, there will be a need for accreditation or at least the establishment of a common standard, a common taxonomy, and some recognition within the homeland security industry. HSDEC is already working with HLS higher education program managers to establish accreditation standards for homeland security programs. Part of the accreditation process would sort out common content and lexicon.

According to the May 2006 *National Survey of State Homeland Security Officials* conducted by Western Carolina University, “nearly 90% of the respondents indicated that higher education institutions are actively or somewhat involved in state homeland security initiatives.”<sup>13</sup> The need for developing the future homeland security leadership pool and the current level of higher education involvement in homeland security supports the idea that the higher education community needs to provide the academic component of future HLS development.

As higher education defines its contribution, there needs to be extensive consideration given to the content of that contribution. As the lynchpin of this effort, baccalaureate programs need to be designed to meet the emerging needs of the HLS leader.

Future HLS leaders will need to visualize the future, and then develop strategic policies that address that future. According to Christopher Bellavita, “Leadership looks toward what could be, what should be.”<sup>14</sup> In order to more accurately anticipate the

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<sup>12</sup> John Rollins and Joseph Rowan, “Homeland Security Education Survey Project” (presentation, Homeland Security Defense Education Consortium seminar, Fairfax, VA, February 28, 2007).

<sup>13</sup> Western Carolina University Institute for the Economy and Future, *National Survey of State Homeland Security Officials* (Cullowhee, NC: Western Carolina University Institute for the Economy and Future, 2006), 22, <http://ief.wcu.edu/pdf/HSReport.pdf> (accessed April 3, 2007).

<sup>14</sup> Christopher Bellavita, “Changing Homeland Security: What Should Homeland Security Leaders Be Talking About?” *Homeland Security Affairs* 2, no. 2, (July 2006), <http://www.HLSaj.org/?fullarticle=2.2.1> (accessed June 17, 2007).

future, leaders will need to understand the threat. This understanding will develop from an historical perspective, as well as an understanding of both manmade and natural threats, which will be fed by knowledge gleaned from the intelligence process. This would include an ability to analyze where the threat is coming from and who and what your adversaries are; all part of a curriculum on intelligence. The net result is better-prepared communities, since plans can be developed in anticipation of future threats (necessitating a risk analysis and strategic planning curriculum).

The HLS leader will need to be able to understand risk and vulnerability. This will guide the HLS leader towards optimal resource allocation. Understanding risk and vulnerability is also important for resource acquisition. (Anyone who has been through the Department of Homeland Security (DHS) grant cycle knows the awarding process is not for the neophyte; risk and process must be understood.) As stated in a recent Government Accountability Office report, "...DHS has taken steps to apply risk management principles to target federal funding for homeland security investments (1) in making homeland security grant allocations, (2) in funding transportation security enhancements, (3) in funding port security enhancements, (4) in other DHS mission areas, and (5) at a strategic level across the department."<sup>15</sup>

There are some logical connections that will need to be accepted in order to embrace the need for a strategically oriented homeland security undergraduate program. If one accepts that the discipline of homeland security is growing, and the current workforce is aging towards near-term retirement, then the logical outcome is an increased need for a qualified workforce.

Although research on HLS education may have existed prior to September 11, 2001, the vast majority of published material appeared after the nation's attention and resources focused on HLS. There has not been enough time to develop a comprehensive body of knowledge that is commonly recognized as authoritative by the practitioners in the field.

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<sup>15</sup> William Jenkins, "Applying Risk Management Principles to Guide Federal Investments," *General Accountability Office Highlights* GAO 07-386T (February 7, 2007), 2, <http://www.gao.gov/new.items/d07386t.pdf> (accessed June 20, 2007).

The development of a consistent template for an undergraduate HLS program will contribute to “developing the bench” for HLS leaders in the following ways:

- The role of higher education in developing the bench will be more evident.
- Higher education institutions will have some guidance in establishing a program recognized by the discipline.
- HLS leaders will have a template for measuring the academic preparation of emerging leaders.
- The discipline of HLS would have a common definition for a bachelor’s degree in HLS.
- The pool of qualified, consistently trained HLS professionals will increase, allowing market competition to stratify the available pool (as opposed to the lack of availability driving the stratification).
- Recognized, and possibly accredited, higher education will contribute to the professionalization of the discipline.

#### **D. TERRORISM VERSUS ALL HAZARDS**

A key point to consider is the refocusing on the all-hazards approach that emerged as a result of the Hurricane Katrina response debacle. Some of the contemporary texts used in academic programs were written before Hurricane Katrina. Although federal statute still defines HLS as terrorism-based, the philosophy cited by Homeland Security Secretary Chertoff clearly takes an all hazards approach. Secretary Chertoff, in his speech to the Senate on September 12, 2006, again stated that the purpose of the Department of Homeland Security is focused on all hazards.

The Department of Homeland Security was created to unify national capabilities against all hazards – from hurricanes to dirty bombs and earthquakes to pandemic flu – and to work in partnership with other federal departments and agencies, state and local governments, the private sector, our international partners, and the American people.<sup>16</sup>

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<sup>16</sup> Chertoff, *Testimony before the Senate Committee on Homeland Security and Governmental Affairs*, 2.

Regarding the curriculum recommendations for either terrorism or natural hazards, there are differing opinions regarding what should be taught in each focus area. The variable is how much of each should be included. The FEMA curriculum recommends a predominantly natural-hazard focus, while many of the alternative recommendations are terror-centric.

A survey of the literature in this field points to a number of unanswered questions: Will the anticipated increase in HLS leadership jobs actually occur? Will HLS become more professionalized? Will future leaders need education in strategy and theory? Is there a need for increased availability of collegiate programs?

Programs such as those provided by much of the FEMA training are designed for the end user or the tactical field practitioner. Some of HSDEC and the FEMA Higher Education Project recommendations are focused toward the strategist or leader. This thesis does not address whether or not there is a need for tactical or “end user” training; the focus of the research presented here is on college-level HLS education.

## **E. CONCLUSION**

Based on the opinions of experts such as Glen Woodbury, academia does have a role in developing the pool of future leaders in HLS. There are those organizations, such as FEMA or HSDEC that, by assertion or practice, have expressed some idea of what should be included in academia’s role. This thesis will pursue a systematic analysis of what should be included in the undergraduate HLS curriculum and conclude by making recommendations based on that analysis.

## **II. METHODOLOGY**

### **A. INTRODUCTION**

This chapter maps the journey that will end with recommendations and conclusions. The process starts with a review of commonalities of existing programs. Next is a topical analysis of texts used in HLS undergraduate programs. The last three sections are a survey of three different target groups, selected as indicated. The survey was the same for all three groups, but each group was uniquely defined to capture a certain perspective.

### **B. EXISTING PROGRAMS**

The first step in developing recommendations for HLS curriculum was to analyze what others are already doing. The source for existing programs was the CHDS website mentioned earlier. Chapter III examines the core curriculum for each of these thirty-five programs. In order to establish a common evaluatory template, the common HLS rubric identified by Bellavita and Gordon were coalesced into a list of thirty potential HLS topical areas.<sup>17</sup> The core curricula were then evaluated as to which of thirty potential topics they contain and how frequently they occur. The net result described in Chapter II illustrates the most commonly occurring curriculum topics.

### **C. CURRENT TEXTS**

This analysis was conducted by reviewing texts used in support of the thirty-five undergraduate programs described in Chapter III of this thesis. Once the core classes were identified in each program, then the texts used in each core class were captured. These texts are organized in Chapter IV, and then the frequently occurring texts are grouped.

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<sup>17</sup> Christopher Bellavita and Ellen Gordon, "Changing Homeland Security: Teaching the Core," *Homeland Security Affairs* 2, no. 1 (April 2006), <http://www.HLSaj.org/?fullarticle=2.1.1> (accessed June 17, 2007).

This group of frequently occurring texts was mined for the chapter topics in each of the texts. These topics were compared with the thirty-topic template from Chapter III to determine the frequency of occurrence of the template topics in the chapters of the studied texts. The frequent occurrence of certain topics would indicate that they are referred to more often in teaching HLS classes, indicating that HLS instructors have placed greater importance on these topics.

#### **D. SURVEY OF HLS PROFESSIONALS**

Another way to identify what skills set is important for those future leaders seated on the bench is by querying current leaders in HLS. The alumni of the Naval Postgraduate School's Center for Homeland Defense and Security, who are selected through a rigorous screening process, can be considered a representative group of leaders in the HLS field. These alumni were asked to rate the thirty-topic template from Chapter III using a range of "very important" to HLS undergraduate curriculum to "very unimportant." The analysis of alumni responses can be viewed in Chapter IV.

#### **E. SURVEY OF EMERGENCY MANAGERS**

As stated earlier, there is a significant overlap between emergency managers and HLS leaders. Emergency managers were used for this phase of study mostly as a matter of convenience, as they were accessible as a group. The intent was to capture the opinion of middle management. Members of the Oregon Emergency Managers Association were queried with the same thirty topics as the HLS leaders, using the same electronic survey. The majority of the members of this organization are either practitioners or managers in smaller emergency management offices. The analysis of their responses is presented in Chapter IV.

#### **F. SURVEY OF COMMUNITY COLLEGE HLS STUDENTS**

The final group surveyed was selected in an attempt to determine what potential future consumers of an HLS undergraduate degree might consider "important" curriculum topics. Students at Anne Arundel Community College and Laramie County Community College were asked to answer the same thirty-topic survey as the other



groups. Not only did the students provide useful opinions, but the demographic data captured with this survey offers potential insight for learning institutions. The age and other demographical data supplied by this group indicates that they are not predominantly comprised of recent high school graduates starting down a collegiate path; are currently employed and possess some level of practical knowledge, background, or experience. The analysis of this survey is also included in Chapter IV.

## **G. THE ANALYSIS**

Data has been gathered by studying existing HLS programs, texts frequently used in HLS education, HLS leaders, emergency managers, and HLS community college students. The raw scores were combined in a meta-analysis, resulting in a prioritization of the thirty topics in the established templates. It is this prioritized list, displayed in Chapter V, which lays a foundation for a scientific study to support the recommendations presented in the final chapter.

## **H. CURRICULUM RECOMMENDATIONS**

FEMA and DHS have recommended what they believe a model curriculum for a college program should contain. One project contributing to these recommendations was conducted by the Center for Disaster Research and Education. Additionally FEMA, in conjunction with the Emergency Management Institute, conducted the Emergency Management Higher Education Project, which also contains curriculum recommendations.<sup>18</sup> The FEMA training website offers additional recommendations. Finally, the Homeland Security/Defense Education Consortium (HSDEC) has published core curriculum recommendations.<sup>19</sup> Each of these efforts has produced recommendations, but the recommendations differ from source to source. As a part of his

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<sup>18</sup> Federal Emergency Management Administration, *Emergency Management Higher Education Project*, (Washington, D.C.: FEMA, 2004) <http://training.fema.gov/EMIWeb/edu/surveys/Surveys%20-%20FischerHenry%20-%20FEMA%20Hi%20Ed%20Project%20Survey.pdf> (accessed January 21, 2007).

<sup>19</sup> HSDEC, *Core Curriculum Recommendations*.

research, Rollins concluded “Based on a review of available data it does not appear that the homeland security academic environment has matured to the point that common core requirements are taught at any level of higher education.”<sup>20</sup>

The end result of this thesis will be to recommend a core undergraduate curriculum based on a meta-analysis of the five areas researched and reflecting the baseline education expectations for HLS practitioners on the bench.

## **I. SUMMARY**

The role of academia in the future of HLS is not yet fully defined. The following chapters will analyze existing curriculum, existing texts, and the opinions of HSL leaders, practitioners, and potential future consumers. By approaching undergraduate curriculum through a systematic study, this thesis will make research-based recommendations regarding what future HLS leaders need to learn.

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<sup>20</sup> John Rollins and Joe Rowan, *The Homeland Security Academic Environment*, (Colorado Springs, CO:HSDEC, September 2007) , 12.

### **III. TRENDS IN CURRENT PROGRAMS**

#### **A. INTRODUCTION**

One method of determining the academic needs of the homeland security discipline is to examine the curriculum used by existing programs. Assuming that considerable thought and study went into the development of current programs, then an analysis of the curricula would reflect the needs as interpreted by each individual institution. When studying these needs, the data should be viewed through at least two filters: what existing resources did the institutions have available within their current course repertoires and what access did the institutions have to instructors for future courses? The answers to either or both of these questions speak to why particular courses are included in the curricula of existing programs. The trends in existing programs will be analyzed based on core courses in programs self-identified as “homeland security” programs.

#### **B. DISCUSSION**

The Center for Homeland Defense and Security (CHDS) has identified forty-two different institutions as offering baccalaureate-level homeland security courses.<sup>21</sup> Figure A1-1, in Appendix A, lists these institutions and identifies the core curriculums relating to homeland security.

Further investigation finds that only thirty-five of the programs listed currently offer HLS baccalaureate degree programs. These core curricula were categorized based on a summary of findings made by Bellavita and Gordon in “Changing Homeland Security: Teaching the Core.”<sup>22</sup> A synthesis of Bellavita and Gordon’s work produced thirty categories of course types associated with the homeland security rubric (see Figure 3-1).

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<sup>21</sup> Center for Homeland Defense and Security website, University and Agency Partnership Initiative, <https://www.chds.us/?partners/institutions> (accessed August 23, 2007).

<sup>22</sup> Bellavita and Gordon, “Changing Homeland Security: Teaching the Core.”

<b>Topic</b>	<b>Explanation</b>
Before, during, after the attack	Prevention, preparation, response, mitigation and recovery
Civil/Military relationship	how the military fits into the domestic Homeland Security effort
Civil Rights/legal/ethics	respecting personal rights as they relate to the practice of HLS
Comparative government	how other nations address HLS and what can we learn from them
Cyber security	Cyber threat and vulnerability
Decision making	how do HLS leaders make assessments, evaluations, and decisions
Department of Homeland Security	how and why it is DHS structured
Emergency Management	The role in HLS of this discipline, and the future direction
Engineering and HLS	what can this technical science contribute to HLS
Exercise, training and modeling	how can this help HLS leaders improve community resiliency
Fed role in HLS	how the various federal agencies support the HLS strategy
Geospatial use in HLS	how do geography and location influence the HLS posture
Homeland Security	HLS: where it's been, where it is, and where it's going
Human resources	What can the HLS leader do to leverage the human resources
Intelligence and HLS	Intelligence acquisition, processing and distribution
Interagency coordination	collaboration, communication, and synergistic partnerships
Leadership	what is expected of HLS leaders, and academia's contribution
Media, risk communications & HLS	how to develop a media plan that supports the HLS strategy
Private Sector in HLS	private industry, utilities, non-governmental organizations in HLS
Psychology of HLS	the psychological consequence of the threat to the homeland
Public health	how public health, and medical system impacts HLS
Risk analysis	tools to assess, prioritize, and mitigate risk to critical infrastructure
Role of communities	what the role of the community is, and what it could be for HLS
Role of the Individual in HLS	What is and should be the role to the individual in HLS
Sociology (politics)	politics, roles, behavior, power, conflict, communication
State and local role in HLS	the responsibilities of state, local and tribal authorities to HLS
Strategic Plan/budget	developing and resourcing the HLS strategy
Technology for HLS	the current and emerging technologies that may contribute to HLS
Terrorism	what is the threat, where does it come from, how do we impact it
Transportation and HLS	both public and private role of the transportation industry in HLS

Figure 3-1. Evaluation Criteria

These categories reflect, in some cases, a grouping of Bellavita and Gordon's recommendations, developed to establish more concise categories to facilitate analysis for the purpose of this thesis. The listed explanations attempt to clarify what was captured by a specific category title. The core curriculum was identified either by mining information available on line for each institution, or by contacting the person identified as

the manager of that particular department. Once identified, the courses that fell into one of the thirty categories were identified and listed. Figure A1-2 in Appendix A lists the courses by category and institution.

Figure A1-3 in Appendix A lists the repetitive course frequency such that counts include each time a category is met by an institution. Figure A1-4 in Appendix A is a non-repetitive count in that a category is only met once by an institution regardless of how many courses they offer that meet that category. Figure 3-2 is a comparison of the frequent topics in both repetitive and non-repetitive analysis.

## Course Topic Frequency

### Repetitive versus Non-Repetitive

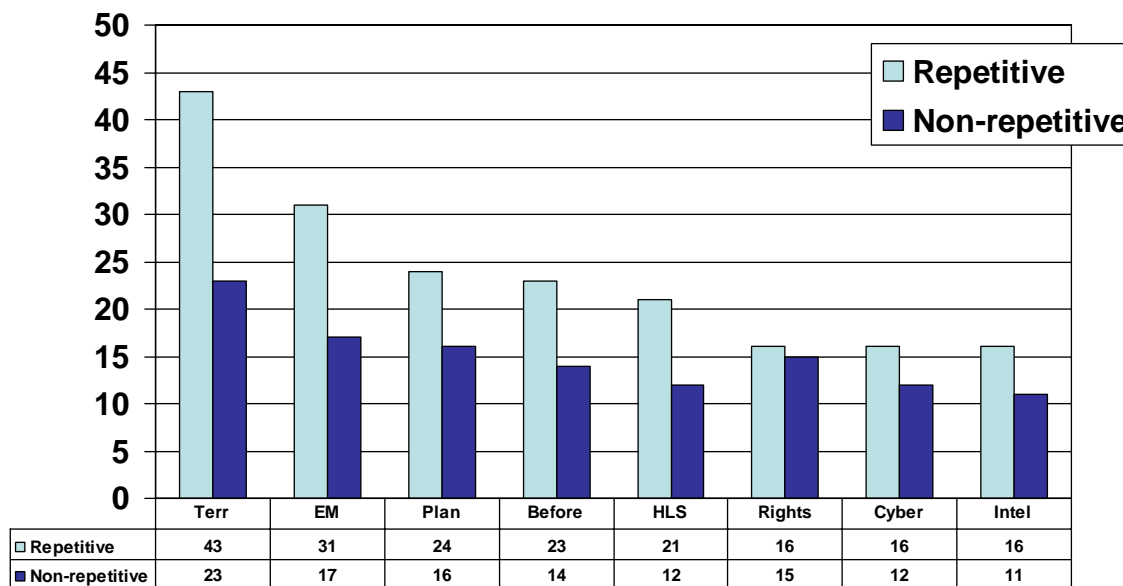


Figure 3-2. Comparison of Repetitive and Non-Repetitive Course Topics

## C. ANALYSIS

Many of the listed academic programs have been initiated within the last three to four years. The establishment of the Department of Homeland Security in 2002, and the resulting government, focus on the phenomena now referred to as homeland security, has

solidified the concept and produced a generally accepted definition of homeland security. Since the current concept of homeland security is a creature born of the last four years, the related curriculum is equally contemporary. The core curriculum identified in Figure A1-1 tends to cluster around the academic focus of the individual institution: if the program has its roots in criminal justice, there tend to be more terrorism-related courses. In programs with an emergency management emphasis, courses in emergency management, consequence management, and planning are more prevalent. Programs with a lineage that includes the social sciences tend to include those types of courses. This can likely be attributed to the availability of course material, approved curriculum, and qualified instructors.<sup>23</sup>

In existing programs, courses in terrorism occur most frequently, whether viewed repetitively or non-repetitively. Two possible explanations for the frequency of this topic rest in the federal statutory definition of homeland security (which addresses only acts of terrorism) and the number of HLS programs with a criminal justice lineage. Cyber security is another frequently occurring course, reflecting an awareness of the need for critical infrastructure protection. The high frequency of emergency management-related courses seems to support the concept that an integral part of Homeland Security has its roots in preparation, prevention, response, mitigation, and recovery – the base tenets of the emergency management planning cycle. Strategic planning and budgeting are going to be important for HLS leaders in that grants and budgets fuel homeland security functions. Planning is also a key component of preparation and response. The recent increase in public awareness of civil rights, legal, and ethical issues (resulting from the abuses at Abu Ghraib, intrusions from the PATRIOT Act, and detentions at Guantanamo Bay) has fueled support for courses in these areas.

#### **D. CONCLUSION**

It is not clear how many HLS programs, if any, started with a clean slate. If most existing HSL programs grew from established programs in other disciplines, then the

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<sup>23</sup> From author's interview with Dr. Vincent Henry, Long Island University, at the March 20, 2007 HSDEC conference at George Mason University.

popularity of certain subjects may not have the same implication as if the HSL program was designed from scratch. However, there are courses and topics occurring with sufficient frequency to support their inclusion in potential curriculum recommendations. Among these are terrorism, emergency management and related topics, civil rights, and homeland security. These findings will be combined with other analyses in subsequent chapters.

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## **IV. COMMONALITY OF TEXTS**

### **A. INTRODUCTION**

There are approximately 130 different texts used in the courses identified in the preceding chapter. This chapter studies the topical trends in the frequently occurring texts, attempts to intuit meaning from the commonality of the texts, and looks further into the texts to determine what trends in topical chapters may indicate for future curriculum design.

### **B. ANALYSIS**

Mining the commonalities of texts in core curriculum may indicate trends, but is not without limitations. The first problematic issue lies in identifying and locating the texts. Some of these texts were readily found in the course descriptions. Some were obtained by contacting instructors or department heads. It was not possible to insure that every text used by every instructor for each iteration of a course was identified in this research. The second limitation lies in the inability to determine if an instructor uses every chapter of every text. The study of chapter topics is based on what chapters are contained in popular texts, and not necessarily on what chapters are actually assigned reading. Figure B1-1, in Appendix B, lists all captured texts for the classes listed in Chapter III. There are approximately 150 different texts used in the identified courses.

Figure 4-1 lists the texts occurring more than twice in the above-mentioned list. Section one lists the text occurring most frequently (nine times), section two lists texts occurring second in frequency (four times), and section three those texts occurring third in frequency (three times). Also included is the name and author of those respective texts.

Nine Occurrences

<b><i>Introduction to Emergency Management by George D. Haddow and Jane Bullock (Butterworth-Heinemann, 2005)</i></b>	
0750679611/ 0750679619 (same text)	Upper Iowa University
	Savannah State University
	Jacksonville State University
	AMERICAN PUBLIC UNIVERSITY
	University of Maryland University College
	University of Akron
	Southwestern College
	Massachusetts Maritime Academy

Four Occurrences

<b><i>Understanding Terrorism: Challenges, Perspectives, and Issues by Gus Martin</i></b>	
1412927226	Upper Iowa University
	Southwestern College
	Savannah State University
	Jacksonville State University
<b><i>Introduction to Homeland Security by Sarp Yeletaysi (Butterworth-Heinemann, 2005)</i></b>	
0750677872	Virginia Commonwealth University
	University of Central Florida
	Tulane University
	Canyon College
<b><i>Disasters by Design: A Reassessment of Natural Hazards in the United States by Dennis S. Mileti (National Academy Press, 1999)</i></b>	
0309063604	University of Central Missouri
	University of Akron
	Jacksonville State University
	Jacksonville State University
<b><i>McGraw-Hill Homeland Security Handbook by David G. Kamien (McGraw Hill, 2005)</i></b>	
0071446656	Western Carolina University
	Vincennes University
	University of North Texas
	Ohio State University

Three Occurrences

<b><i>Response to Disaster by Henry W. Fischer III (University Press of America, 1994)</i></b>	
0761811826	Western Carolina University
	University of Central Missouri
	Massachusetts Maritime Academy
<b><i>Pathways Emergency Planning by Ronald W. Perry, Ph.D. and Michael K. Lindell, Ph.D. (Wiley, 2007)</i></b>	
0471920779	University of Maryland University College
	University of Akron
	Jacksonville State University
<b><i>Inside Terrorism by Bruce Hoffman (Columbia University Press, 1999)</i></b>	
0231114699	Virginia Commonwealth University
	University of Akron
	Upper Iowa University
<b><i>Terrorism Homeland Security by Jonathan R. White (Thomson Learning, 2005)</i></b>	
0534643817	Virginia Commonwealth University
	University of Central Florida
	Tulane University

Figure 4-1. Frequently occurring texts listed by institution

Using the same thirty topical areas listed in Figure 3-1, the chapter topics of each frequently occurring text were identified, and those chapters matched to the 30 topical areas. Not all chapters matched one of the 30 topical areas, and the meaning of the chapter titles was matched as closely as possible. This was a repetitive analysis in that if a topic occurred more than once in a text, it was counted for each occurrence. Figure 4-2 lists the results of that analysis.

<b>Topical area of chapter</b>	<b>Frequency of occurrence</b>
Terrorism	20
Before, during, after the attack	10
Strategic Plan/budget	8
Risk analysis	5
Comparative government	2
Emergency Management	2
Homeland Security	2
Psychology of HLS	2
Sociology (politics)	2
Technology for HLS	2
Civil Military	1
Civil Rights/legal/ethics	1
Cyber security	1
Exercise, training and modeling	1
Federal role in HLS	1
Intelligence and HLS	1
Media, risk communications and HLS	1
Private Sector in HLS	1
Role of communities	1
State and local role in HLS	1
Transportation and HLS	1
Decision making	
Department of Homeland Security	
Engineering and HLS	
Geospatial	
Human resources	
Interagency coordination	
Leadership	
Public health	
Role of the individual in HLS	

Figure 4-2. Frequency of occurrence of chapter topics (repetitive)

Of note is that the *McGraw-Hill Homeland Security Handbook* had chapters covering 17 of the 30 topics on the list. No other text had that high a number of topics covered in one text.

Topical area of chapter	Frequency of occurrence by institution
Terrorism	5
Before, during, after the attack	5
Risk analysis	5
Comparative government	2
Emergency Management	2
Psychology of HLS	2
Sociology (politics)	2
Technology for HLS	2
Strategic Plan/budget	1
Homeland Security	1
Civil Military	1
Civil Rights/legal/ethics	1
Cyber security	1
Exercise, training and modeling	1
Federal role in HLS	1
Intelligence and HLS	1
Media, risk communications and HLS	1
Private Sector in HLS	1
Role of communities	1
State and local role in HLS	1
Transportation and HLS	1
Decision making	
Department of Homeland Security	
Engineering and HLS	
Geospatial	
Human resources	
Interagency coordination	
Leadership	
Public health	

Figure 4-3. Frequency of occurrence of chapter topics (non-repetitive)

Figure 4-3 illustrates a non-repetitive analysis of the same chapters and texts. Regardless of how many times a particular topic occurs at an institution, the institution is only counted once. Since some of the studied texts are focused on only one topic, this additional analysis accounts for that phenomenon. For example, a text on terrorism may

have multiple chapters on only that topic, as opposed to a text that is more general and may cover several of the topic areas. However, the order of frequency displays only minor variances between repetitive and non-repetitive, as illustrated in Figure 4-4.

## Text topic frequency

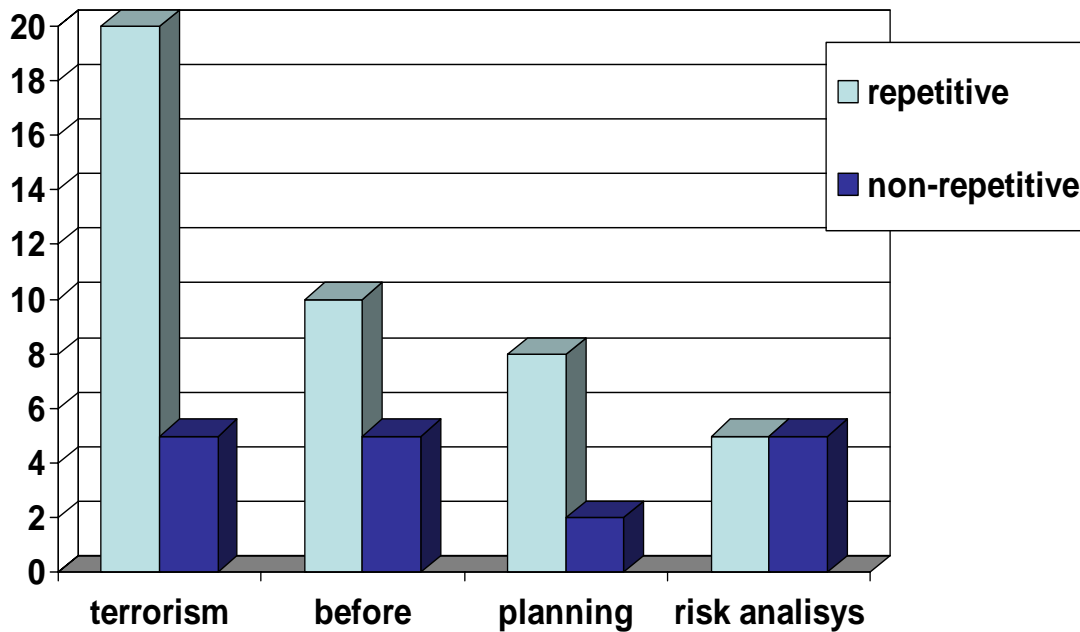


Figure 4-4. Text topics repetitive vs. non-repetitive comparison

### C. CONCLUSIONS

As illustrated by the ISBN listings in Figure B1-1 (Appendix B), there are approximately 150 different texts used in homeland security core courses. This does not take into account texts that were not specifically designed for homeland security curricula but have found a place in such programs.

Breaking down texts into topical chapters, and then placing those topics into the thirty categories discussed in Chapter III, provides a common platform for assessing the popular similarities. There are those topics that occur in texts addressing terrorism, homeland security, and emergency management. The first and third most frequently

occurring chapter topics, when taken repetitively, analyze the risk and study the prevention, preparation, response, mitigation, and recovery from a catastrophic event.

The second most frequently occurring repetitive chapter topic is terrorism. This does correspond to the frequency of occurrence of core courses. However, the numbers are skewed to some degree by the fact that some of the texts are specifically about terrorism, and therefore have multiple chapters on terrorism as opposed to the general HLS text that could include terrorism among other topics. The non-repetitive results are not dissimilar to the repetitive data.

The first phase of this study looked at existing curriculum. This chapter examined the texts supporting existing curriculum. This will be followed by the study of the opinions of people associated with either HLS practice or education. Chapter V will compare results from Chapter III, data from this chapter, and the results of the surveys in Chapter V.

## **V. SURVEY**

### **A. INTRODUCTION**

The opinions of people involved in the many facets of homeland security have great value in determining future academic needs. These opinions (like the review of existing courses presented in Chapter III, and the examination of text commonalities in Chapter IV) provide a perspective on what may be important to include in undergraduate curriculum. The following study also reflects industry demand, future vision, and needs of the potential customer base and consumer. In a world unbounded by monetary resources, academic institutions would provide a plethora of educational options. In the world in which we live, academia must consider the business of education. To that end, this survey attempts to tap sources that provide a glimpse into what could be a successful business model for an undergraduate homeland security program, meeting the needs of the industry and the customer base. This survey was administered to three groups: a cross section of leaders working in the sub-disciplines of homeland security, a group of emergency managers, and students pursuing an associate's degree in homeland security.

The first group was selected to capture the upper-level practitioner's view of the homeland security profession, and to determine what they may be looking for as desirable skill sets in their staffs. The survey was sent to the alumni of the Center for Homeland Defense and Security (CHDS) master degree in security studies program. Participants in this program were selected based on their leadership in the field of homeland security; included are federal, state and local representatives who are currently working in one of the many HLS-related disciplines such as police, fire, public health, emergency management, and the military. By virtue of their participation in the CHDS program, they offer some insight into the future needs of homeland security, have experienced academia's contribution, and know enough about the workforce to anticipate staff qualifications. Also, each has attained a postgraduate degree in homeland security and so has been exposed to a homeland security-related curriculum.

The second group consists of practicing emergency managers. This group offers a unique viewpoint as field practitioners. As a subset of the homeland security workforce that has a professional organization, they are a more easily captured sample group. Of those emergency management personnel with academic credentials, over 50% have only a bachelor degree and more than 90% have a bachelor's degree plus additional education, according to a 2007 NEMA survey.<sup>24</sup> Since the survey conducted for this thesis is concerned with undergraduate HSL education, this group provides a valuable perspective. Also, this sample group included all levels of the workforce, not just leaders. The survey was distributed through the Oregon Emergency Managers Association to all of its members.

The final group surveyed for this thesis was community college students pursuing a homeland security education. This group of students has already expressed an interest in the homeland security field, and an interest in obtaining academic exposure to support that interest. They are potential consumers of an undergraduate homeland security degree program. Students from Anne Arundel Community College, Laramie Community College, and Mid South Community College were surveyed asking the same questions used to survey CHDS alumni and emergency management personnel.

From the business perspective, these surveys include those who could hire the consumer of the product, people using similar products in the field (practitioners), and people who are potential future consumers. The data obtained through these surveys could help in creating strategies for increasing market share as well as prioritizing curriculum.

## **B. THE SURVEY**

Using the same thirty topical areas identified in Figure 3-1 subjects were asked to prioritize the topics as very important, important, slightly important, neutral, slightly unimportant, unimportant, or very unimportant. The survey was administered through an

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<sup>24</sup> NEMA, *Profile of State Emergency Management Directors and Their Agencies*, 2007, 12-13.



online service. Following the thirty topic questions, subjects were asked to provide some basic demographics and work background, and for any topics they considered important in addition to the thirty included in the survey.

A total of 140 subjects completed the survey. Sixty-eight responded from the homeland security professional sample, 43 from the emergency manager group, and 29 from the student sample.

Figure 5-1 reflects the results of the homeland security professionals' responses.

<b>Topic</b>	<b>Very Important %</b>	<b>Very important or Important %</b>
Terrorism	60	97
Legal, ethical, civil rights	46	93
State & Local Government	51	92
Interagency Coordination	50	87
Federal role in HLS	29	85
Before, during, after attack	39	83
Civil-military relationship	34	79
Risk analysis	28	78
Emergency management	26	73
Psychology of HLS	22	73
Role of private sector in HLS	31	72
Media	19	70
Leadership	35	69
Role of Communities	21	68
Transportation security	19	68
Study of HLS	29	67
Intelligence	26	67
Comparative HLS	19	66
Public health	24	65
Sociology of HLS	26	64
Decision Making	24	63
HLS technology	15	61
Strategic Planning	13	59
Exercises and training	13	59
Role of Individuals	22	56
Cyber security	18	54
Human Resource Management	11	37
Study of DHS	9	35
Engineering	5	29
Geospatial	6	27

Figure 5-1. Ranking of HLS Topics by Homeland Security Professionals

These data are prioritized by the most frequently selected response of either very important or important. The second column lists the results for the responses of “very important,” only, but is not reflected in the ranking of the frequency of response and is provided for informational purposes only. Terrorism is the most frequently selected topic in both the second and third columns. This sample group was 57 percent male, with 32 percent over age 50, and 84 percent over age 40.

Figure 5-2 reflects the results of the emergency managers’ responses.

<b>Topic</b>	<b>Very Important %</b>	<b>Very important or Important %</b>
State & Local Government	60	93
Emergency management	49	93
Before, during, after attack	58	91
Exercises and training	53	90
Interagency Coordination	60	88
Role of private sector in HLS	23	86
Public health	31	81
Risk analysis	28	77
Media	23	76
Leadership	26	74
Decision Making	42	72
Intelligence	21	72
Federal Role in HLS	15	69
Terrorism	26	66
Role of Communities	19	66
Strategic Planning	30	65
Role of Individuals	16	65
Cyber security	16	63
Transportation security	12	63
Legal, ethical, civil rights	23	60
HLS technology	16	58
Sociology of HLS	21	56
Civil-military relationship	14	56
Human Resource Management	16	49
Comparative HLS	12	47
Engineering	7	42
Study of HLS	2	42
Geospatial	14	37
Psychology of HLS	12	33
Study of DHS	0	23

Figure 5-2. Ranking of HLS Topics by Emergency Managers

As in Figure 5-1, these data are prioritized by the results shown in the last column, and the second column is included for informational purposes only. Whereas these responses are from emergency managers, it is not surprising that the role of state and local government and emergency management comprise the top two categories. Terrorism drops several steps when compared to the first group. This sample group of emergency managers was 79 percent male, with 58 percent over age 50, and 84 percent over 40 years of age.

Figure 5-3 reflects the results of the homeland security community college students' responses.

<b>Topic</b>	<b>Very Important %</b>	<b>Very important or Important %</b>
Terrorism	68	100
State & Local Government	40	96
Risk analysis	36	93
Legal, Ethical, civil rights	60	93
Before, during, after attack	60	90
Sociology of HLS	20	86
Civil-military relationship	32	86
Inter agency	48	86
Study of HLS	40	85
Public health	20	85
HLS technology	48	84
Emergency Management	52	83
Cyber security	40	82
Transportation security	32	82
Media	36	82
Role of Communities	32	82
Leadership	52	79
Federal Role in HLS	40	78
Private Role in HLS	32	78
Decision Making	44	75
Intelligence	52	75
Exercise, Modeling and Train	48	75
Role of Individuals	32	75
Comparative HLS	32	71
Engineering	12	71
Geospatial	8	67
Human Resource Management	20	67
Strategic Planning	28	65
Psychology of HLS	36	65
Study of DHS	20	64

Figure 5-3. Ranking of HLS Topics by Community College Students

Again, these data are prioritized in the last column. The questions regarding assessment of risk, the sociology of homeland security, and the study of homeland security are higher in importance when compared to the previous two groups. The study of homeland security technology also rated higher among community college students. This might be seen as a reflection of the general increase in technological savvy in the current generation, except that 59 percent of the respondents were over 50 years of age, and 81 percent were over 40 years of age. This sample group was also 56 percent female and 44 percent male, a significant gender difference from the other two sample groups.

Figure 5-4 reflects the data for all those who took the survey.

<b>Topic</b>	<b>Very Important %</b>	<b>Very important or Important %</b>
State & Local Government	52	94
Terrorism	51	87
Before, during, after attack	49	87
Interagency Coordination	53	87
Legal, ethical, civil rights	41	83
Emergency management	38	81
Risk analysis	29	80
Federal role in HLS	27	80
Media	24	75
Role of private sector in HLS	28	74
Public health	25	74
Civil-military relationship	27	73
Leadership	35	72
Exercise, modeling and training	32	71
Intelligence	29	70
HLS technology	21	69
Transportation security	19	69
Role of Communities	22	69
Decision Making	33	68
Sociology of HLS	23	65
Study of HLS	23	63
Cyber security	22	62
Strategic Planning	21	62
Role of Individuals	22	62
Comparative HLS	19	61
Psychology of HLS	21	59
Human Resource Management	14	46
Engineering	7	41
Study of DHS	8	37
Geospatial	9	37

Figure 5-4. Ranking of HLS Topics by All Persons Surveyed

Figures 5-1 through 5-4 illustrate what the respective sample groups reported as important topics. Although each group's top ten were not the same, there are similarities. Given that the thirty proposed topics are based on the homeland security rubric, it is not extraordinary that most of these topics were viewed with some level of importance. Although the sample numbers are small and may not provide statistical significance, there may be a message in what respondents indicated was unimportant. Of all respondents, 15 percent indicated that the study of the Department of Homeland Security (DHS) was slightly unimportant, unimportant, or very unimportant. The reasons for this view were not explored in this research.

Of the respondents, 14 percent placed Human Resources into one of the three categories of unimportance and 12 percent placed Geospatial and Engineering into one of the three categories of unimportance. None of these topics were ranked in the top ten of any of the subcategories listed in Figures 5-1, 5-2, or 5-3. Seven percent of respondents ranked Exercises in one of the three categories of unimportance; however this question ranked fourth in importance in the emergency managers' survey responses. The ranking in the emergency managers' responses indicates there is a perceived need for instruction on exercises.

Figure 5-5 is a comparison of the responses in the top ten of each sub group. Items with no score were not included in that subgroup's top ten. This illustrates how the subgroup's priorities compare. The topics of state and local, interagency, and before, during and after the attack all have commonly high clusters. Terrorism and legal-ethical-civil rights received high scores, but not across all three subgroups.

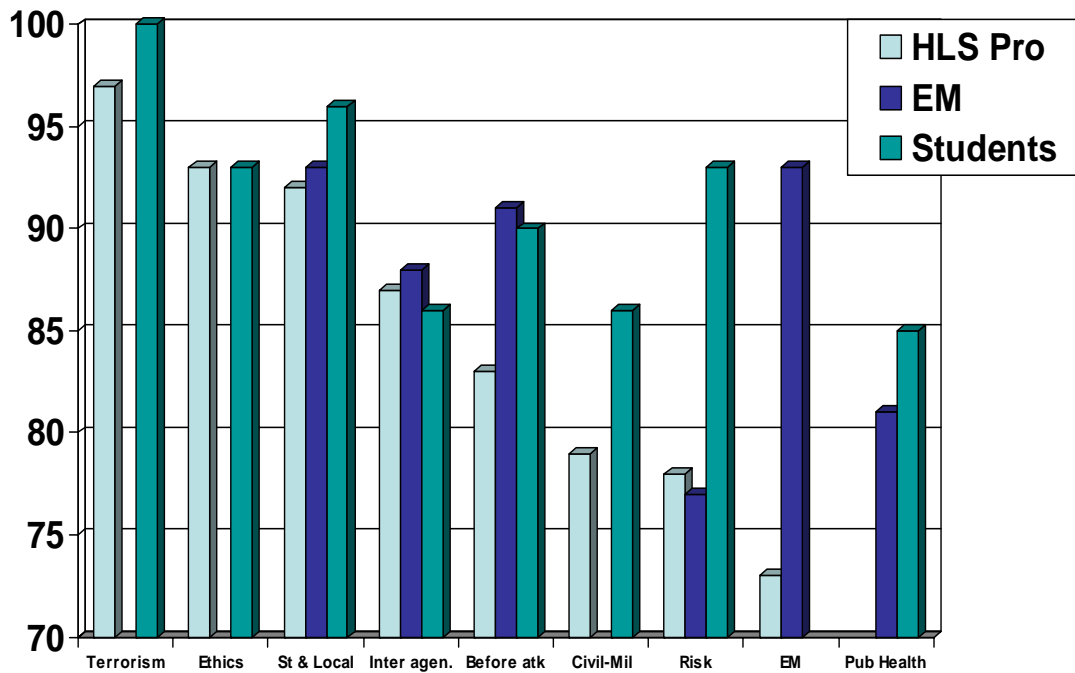


Figure 5-5. Comparison of Subgroup Top Ten

### C. CONCLUSIONS

Based on the above data, the results of these surveys are indicative of topic priorities, but the sample groups are relatively small. There are trends from which some theories could be developed. The clustering of responses prioritizing the role of state and local authorities, interagency coordination, and the planning cycle for before, during and after the attack would indicate that these are important to all three sample groups. The high frequency of response prioritizing terrorism and legal, ethical, and civil rights issues would support the importance of these topics, despite the fact that this prioritization did not cross all three disciplines. There are also observable trends in the top ten topics selected by each subgroup that lead to additional theories; these theories will be explored further in Chapter VI with a meta-analysis.

The topic prioritization by homeland security professionals and emergency managers are understandable when the respective responsibilities of these groups are taken into account. By the nature of the response structure, emergency managers are

interagency dependent, either laterally to adjacent peers, or vertically to higher tier response at the state or regional level, thus relying on interagency coordination and cooperation. Homeland security leaders are more focused on terrorism; response to terrorism formed the original foundation of homeland security. With the recent spotlight on civil rights issues such as the ethical treatment of detainees, and the rights given to government and the president, it is easy to understand why legal, ethical and civil rights issues figure prominently in their priorities.

The survey results presented in this chapter offer three different perspectives of HLS curriculum priorities. The combination of these results with the analysis of existing programs and texts used in those programs – the meta-analysis explored in Chapter VI – sets the stage for the recommendations based upon scientific examination provided in Chapter VII.

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## VI. ANALYSIS

### A. INTRODUCTION

The first phase of this research examined what courses are currently being offered in the homeland security undergraduate academic arena. Phase two was to see what could be gleaned from the texts that support existing undergraduate homeland security curricula. The third phase was the survey of practitioners, leaders, and students to see what trends could be seen in the opinions of these sample groups. The next phase is a meta-analysis of the data to see if there are observable trends and if those trends are pronounced enough to stand out despite the small sample size used for the surveys. To do this, the data from curricula, texts, homeland security professionals, emergency managers, and community college students were all combined to identify the top ten outcomes.

### B. THE STUDY

The raw data from each data source was listed from most to least important. This facilitated a cross-comparison of each level of ranking for all data sources. The scores were then totaled for each topical area, and an overall score established. This data is reflected in Figure 6-1.

Topic	HLS Pro	EM	Students	Curriculum	Texts	total
Terrorism	66	28	29	43	20	186
Before, During and After the Attack	55	39	25	23	10	152
Emergency Management	50	40	24	31	2	147
Role of State and Local	63	40	28	3	1	135
Legal, Ethical and Civil Rights	63	26	27	16	1	133
Risk Analysis/Risk Management	54	33	26	12	5	130
Interagency Cooperation	59	38	25	2		124
Strategy Planning	40	28	18	24	8	118
Intelligence for HLS	46	31	22	16	1	116
Study of HLS	46	18	25	21	2	112
Public Health	44	34	25	9		112
Role of the	47	33	24	6	1	111
Federal Role in HLS	58	28	22	1	1	110
Sociology of HLS	44	24	25	13	2	108
Role of the Private Sector	49	33	23	2	1	108
Leadership	47	31	23	6		108
Transportation	46	27	23	8	1	105

<b>Topic</b>	<b>HLS Pro</b>	<b>EM</b>	<b>Students</b>	<b>Curriculum</b>	<b>Texts</b>	<b>total</b>
Exercise and Training	40	39	21	4	1	105
Cyber security	36	27	24	16	1	104
Civil-military Relationship	53	24	25	1	1	104
HLS Technology	41	25	25	9	2	102
Role of Communities	46	28	24	3	1	102
Decision Making	42	31	22	2		97
Psychology of HLS	50	14	19	10	2	95
Role of the Individual in HLS	38	28	22	3		91
Comparative Government	45	20	21	1	2	89
Human Resource Management	24	21	19	2		66
Geospatial	18	16	19	6		59
Engineering	19	18	20	1		58
Study of DHS	24	10	18	1		53

Figure 6-1. Meta-analysis of Topic Rankings

Since there was a four-point difference between the top nine topics, versus the topic with frequency of ten, this constituted a grouping that was selected as the dividing point. Also of note is the difference of thirty-four points between the highest scoring topical area and the second highest scoring topical area. No other steps in score exhibit that large a spread.

To bring some of these recommendations full circle, Figure 6-2 illustrates the relationship between topics that scored in the top nine topics of the meta-analysis to the top ten topics associated with current homeland security courses.

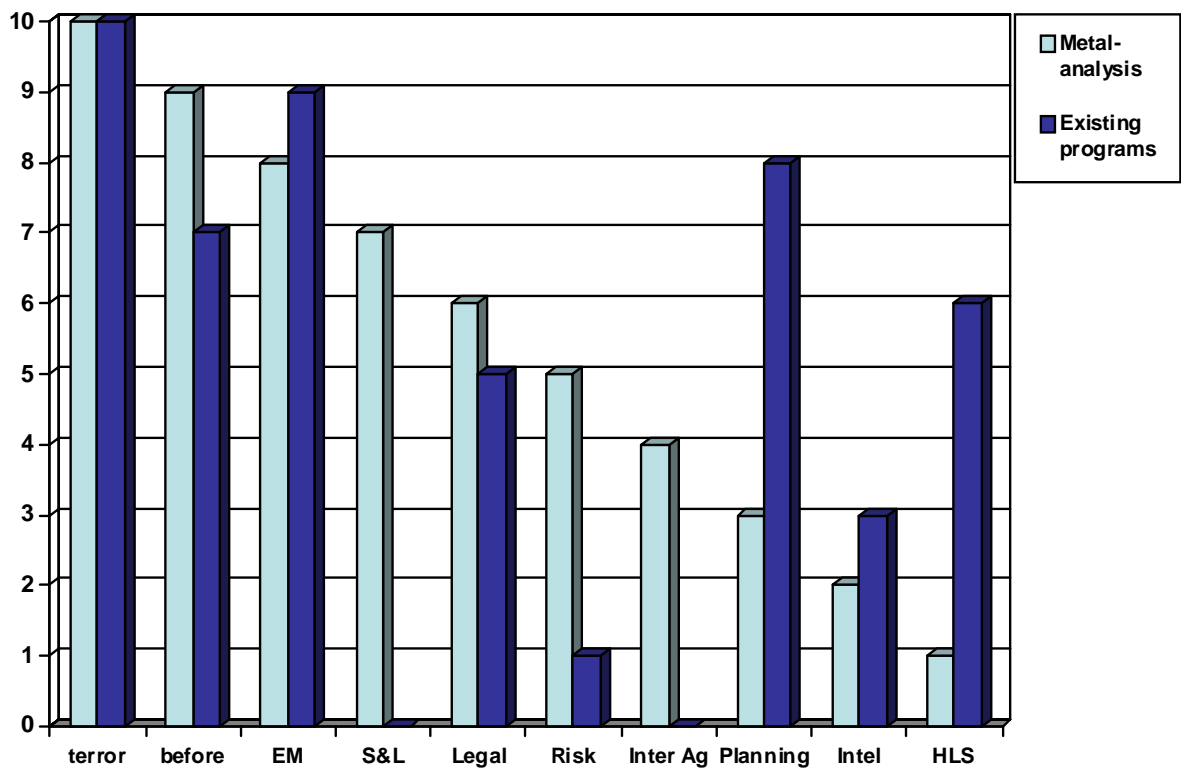


Figure 6-2. Meta-analysis Results versus Existing Academic Programs

There are other significant groupings. The higher scores for role of state and local and interagency are clustered in the survey results for all three surveyed groups. intelligence and legal/civil rights displayed higher scores in four out of five categories. Although not a perfect match, there is enough similarity to illustrate that the current curricula are not profoundly disparate when matched to the research data.

In higher education, there may be a need for specialized courses that do not experience popularity across any of the studied areas. Colleges and universities that have resources within their institutions could provide courses in unique areas such as cyber security, engineering, or geospatial information as part of an overall homeland security curriculum and fill a niche market. As a result, no topic from the list should be summarily discounted, as there may be a need for that topic in the overall industry. The results of this study indicate those topics that could form a core curriculum.

This analysis has provided an overall perspective using an amalgamated prioritization process combining all the individual pieces of research. The next step, as shown in Chapter VII, is to provide meaning and implications for the data.

## VII. RECOMMENDATIONS AND CONCLUSION

### A. INTRODUCTION

The results of this systematic study of undergraduate curriculum provide information to institutions considering an HLS program, or institutions with existing programs that wish to examine current trends. The final recommendations and conclusions are based on the data presented; any institution can use the data as a shortcut to reaching its own conclusions without going to the effort of replicating this research.

Academia's mission in developing future HLS leaders is recognized by the DHS Science and Technology Directorate. The directorate, in cooperation with the department's chief learning officer, oversees the department's university programs. The mission of the directorate is to "stimulate, coordinate, leverage, and utilize the unique intellectual capital in the academic community to address current and future homeland security challenges, and educate and inspire the next generation homeland security workforce."<sup>25</sup> This mission statement provides clear vision, but does not prescribe how to accomplish this vision. The research in this thesis could put some flesh on the skeleton.

Most of the recommendations presented below are based upon the meta-analysis of existing curriculum (Chapter III), texts to support those curriculums (Chapter IV), and the opinions of homeland security practitioners, leaders, and students (Chapter V). Also considered was the experience of another discipline in the area of standards and professionalism, the criminal justice academic field. Finally, this research may have identified an area of HLS education that could provide a unique opportunity for academia.

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<sup>25</sup> U.S. Department of Homeland Security Directorate of Science and Technology, *Portfolios: University Programs* [http://www.dhs.gov/xres/programs/editorial\\_0555.shtm](http://www.dhs.gov/xres/programs/editorial_0555.shtm) (accessed August 2007).

## **B. CURRICULUM RECOMMENDATIONS**

The factors that motivated each of the thirty-five institutions examined here to establish a specific curriculum were not part of this study; however some exploratory inquiry was conducted that is clearly relevant to this thesis and HLS program development.<sup>26</sup>

According to Dr. David McIntyre, the graduate certificate program at Texas A&M took a three phased approach.

Step One was an overlay of NSS on HLS ... but done by the dean of the national war college and the head of the department of military strategy and ops at the war college. It continued for three years, into the only think tank dedicated to HLS – at ANSER. A great deal of study and thought was involved.

Step Two was not just collecting writings, but collecting the most important and best quality work being done on HLS. This requires a great and continuing familiarity with the entire range of issues on a day to day basis for years. We have a continuing four-year research project that has involved five full time professionals, more than two dozen different graduate research assistants, and more than thirty graduate students. We have spent about \$400,000 on this effort over five years. And we did not just organize the documents for implications. We amassed and ordered 4,000 documents into a taxonomy and used that to design a program of a dozen graduate courses. We checked that course curriculum and design against the best work at NPS, NORTHCOM, and in DHS. The result is a pretty good definition of the emerging discipline. We have employed both professional librarians and professional archivists in the effort.

Step Three is bringing subject matter experts from established disciplines in to apply their expertise in existing disciplines to the interdisciplinary field of homeland security. Building an interdisciplinary program is different from simply ‘consulting with experts.’ There are no experts in homeland security – or more precisely, there are experts on transitory policy issues, but none on the underpinnings of the subject. That

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<sup>26</sup> Dr. Stan Supinski provided two references in response to a request for good resources to ask about how an institution arrived at their respective curriculum: Dr. David McIntyre from Texas A&M, and Dr. Vincent Henry from Long Island University.

intellectual spade work has not yet been done. We are training existing experts in homeland security and then using their new expertise to build the discipline.<sup>27</sup>

The final step for Texas A&M, according to Dr. McIntyre, was to identify what unique curriculum they had that could contribute to HLS, and then leverage that to support HLS education.

According to Dr. Vincent Henry, director of the Long Island University (LIU) Homeland Security Management Institute, LIU also followed a multi-step process. They started with five basic topical areas common to HLS: introduction to HLS, constitutional issues, intelligence for HLS, private sector in HLS, and domestic and foreign terrorism. At this point, he asked his board of advisors, made up of practitioners in HLS, to identify texts and other documents that were important to HLS. They then conducted an analysis of these documents to determine the critical areas for HLS academics. Dr. Henry had this list validated by the board of advisors, and this became the guiding outline. There was a natural progression in the development of curriculum; he next asked the Naval Postgraduate School (NPS) to conduct an external evaluation of the LIU program, which provided validation of the curriculum they had chosen. Dr. Henry then completed the cycle by partnering with the NPS HLS program.<sup>28</sup>

Each of these examples used a systematic analysis to arrive at their curriculum; however, their analysis was without the benefit of the data developed for this thesis. Whatever process is used by institutions for curriculum development, the recommendations presented here may differ in some degrees from the existing practices. The following initial recommendations are based on the results of the meta-analysis in Chapter VI. The top nine recommendations from the meta-analysis will be described in order of prioritization, with a brief statement concerning the importance and relevance of each to the core of HLS education.

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<sup>27</sup> Author's interview with Dr. David McIntyre, Texas A&M University, on January 11, 2008.

<sup>28</sup> Conversation between author and Vincent Henry, Long Island University, on January 14, 2008.

### **C. TERRORISM**

Topping the list of recommendations for core curriculum is terrorism. Aside from being the highest scoring recommendation, terrorism as a topic could fit conveniently into programs with their roots in criminal justice, emergency management, or social science. A program with criminal justice roots could easily explore the criminality of terrorism, investigation of terrorism, intelligence as it relates to terrorism, and the history of terrorism. Emergency management programs could apply knowledge of terrorism to preparation for prevention, the response and recovery cycle, and assisting future HLS leaders to establish more resilient communities. Programs with their roots in the social sciences could explore the causes of terrorism, the relationship of terrorism to society, potential cures for terrorism, the psychology of terrorism, and the politics of terrorism. This would allow academic institutions the option of capitalizing on existing curriculum from other programs. Terrorism is the seed that caused HLS to blossom. The HLS Act of 2002 defined the initial mission of DHS as:

- To prevent terrorist attacks within the United States;
- To reduce the vulnerability of the United States to terrorism; and
- To minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States.<sup>29</sup>

Despite its low frequency of occurrence as compared to natural disasters, terrorism consumes much of the attention and resources expended by HLS leaders. As such, an undergraduate degree program would need to prepare the future leader to anticipate, prepare for, and understand the terrorist threat.

### **D. BEFORE, DURING, AND AFTER THE ATTACK: PREPARATION, PREVENTION, RESPONSE, MITIGATION AND RECOVERY**

The next topic, abbreviated in this analysis, as before, during, and after the attack, reflects the emergency management (EM) planning cycle. Recognizing the fact that this planning cycle is a legacy of EM, it is still important to the HLS leader.<sup>30</sup> Executive

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<sup>29</sup> U.S. Department of Homeland Security, *Homeland Security Act of 2002*, PL 107-269, November 25, 2002, [http://www.dhs.gov/xlibrary/assets/hr\\_5005\\_enr.pdf](http://www.dhs.gov/xlibrary/assets/hr_5005_enr.pdf) (accessed February 23, 2008).

<sup>30</sup> This is based on the author's experience of following the DHS format guidance for application for DHS grant funds.



Order 13228, which created the Office of Homeland Security, refers to the mission of that office as applying the emergency management planning cycle to terrorism.<sup>31</sup> As the future HLS leader develops his or her strategy and vision for the future, the EM planning cycle would be a good source of either structure or at least a checklist to aid in ensuring thoroughness. Teaching this construct as part of an undergraduate program could be accomplished through a variety of courses such as a class on resilient communities or a course in the prevention of terrorism. This topic area provides a defined core basic (the EM planning cycle), while leaving enough latitude for an institution to flesh out the course with sections reflecting the philosophy of the specific program.

### **1. Emergency Management**

As illustrated in the prior section, the EM planning cycle is inextricably intertwined with HLS. The future HLS leader will need a full understanding of disaster preparation, response, and recovery as these are tasks for both HLS and EM (as illustrated by the inclusion of the EM planning cycle in Executive Order 13228). With these cross-over skills, the graduate with an undergraduate degree in HLS could seek employment in either HLS or EM, extending the versatility of the degree and making it attractive to employers and students alike. Another consideration is the foundational history of both HLS and EM. Emergency management dates back to at least 1805, when Congress passed legislation that enabled the federal government to provide aid in a local fire disaster.<sup>32</sup> Having a much longer history than HLS, EM should provide the student of HLS with a rich reservoir of background for learning. Academic programs with roots in criminal justice could use emergency management as a tool to study the factors influencing, and the responsibilities of, first responders.

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<sup>31</sup> President George W. Bush, "Executive Order 13228," *Federal Register* 66, no. 196 (October 8, 2001,) Section 3.

<sup>32</sup> Eisl Sebastian, "History of Emergency Management: Understanding the Systems that Are in Place to Protect You during a Disaster," *Associated Content*, November 3, 2007, [http://www.associatedcontent.com/article/434975/history\\_of\\_emergency\\_management.html](http://www.associatedcontent.com/article/434975/history_of_emergency_management.html) (accessed February 24, 2008).

## **2. The Role of State and Local Government**

DHS Secretary Chertoff stated, when explaining the new *National Response Framework*, that “A second fundamental principle of the NRF is tiered response. The National Response Framework recognizes that local communities, tribes and states have the primary responsibility for the safety and security of their citizens.”<sup>33</sup> This is a clear expression that responsibility of disaster response always starts with the local responders. When more help is needed response cascades upward to regional, state, and then federal entities. As a result, it is understandable why exploring the role of state and local emergency management would figure prominently in HLS undergraduate curriculum. Not only should this topic be included for its applicability to HLS, but there is also the significant resource pool of people participating in HLS at the state and local level who are potential consumers of this education.

## **3. Legal, Civil Rights**

As the U.S. defines how it responds to HLS demands, the discussion about where the boundaries of civil rights are drawn continues to evolve. The relationship between HLS and civil rights frequently appears in the media. Since total agreement is unlikely in the near future, an in-depth study of civil rights and HLS is both timely and appropriate for the undergraduate studying to be an HLS leader. As recently as February 2008, the president and Congress argued over where the line should be drawn regarding government eavesdropping. About forty lawsuits have been filed against telecom companies who cooperated with government requests.<sup>34</sup> The issues surrounding the detention, trial, and civil rights of suspected terrorists at Guantanamo Bay has sparked debate for months. The use of techniques, considered by some to be torture, against suspected terrorists has resulted in debate in both congress and the media. There are

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<sup>33</sup> Remarks by Homeland Security Secretary Michael Chertoff at a Press Conference on the National Response Framework Released January 22, 2008, [http://www.dhs.gov/xnews/speeches/sp\\_1201092657616.shtm](http://www.dhs.gov/xnews/speeches/sp_1201092657616.shtm) (accessed February 24, 2008).

<sup>34</sup> “Bush warns of more terrorist attacks as he pressures House to approve new surveillance law,” *International Herald Tribune*, February 13, 2008, <http://www.iht.com/articles/ap/2008/02/13/america/Terrorist-Surveillance.php> (accessed February 23, 2008).

several areas that are relevant to, and may confront, the future HLS leader. Presenting these issues in an academic environment, and allowing students to study and debate the issues, will help prepare the undergraduate student for a leadership role in the future of HLS.

#### **4. Risk Analysis**

The scientific process of analyzing risk encompasses several academic areas, as it teaches the student the academic process of identifying vulnerabilities and assessing the threat. While identifying vulnerability, the student will think critically about where weaknesses are in the protective posture of an entity, to include opportunities for prevention and protection, which are parts of the EM planning cycle. When considering the threat, the student would need to study the terrorist's intentions and capabilities, which interrelates to both the study of terrorism, and the implications of intelligence, which are two of the other nine recommended curriculum topics. In keeping with an all hazards mindset, a study of vulnerability would include vulnerability to natural hazards and the implications for risk. For the criminal justice academic resources there are opportunities to consider crime prevention strategies, crime prevention through environmental design (CPTED), and risk management. Social scientists can contribute a definition of risk, its social implications, and the consequences of risk awareness and mitigation. Due to the scientific nature of risk analysis, the fields of engineering, geospatial information, and statistics can contribute to HLS curriculum. (One of the factors included in grant money distribution schema utilized by DHS includes risk buy-down.)<sup>35</sup> Because of the aforementioned factors, academic exposure to the science of risk would benefit the understanding of future HLS leaders.

#### **5. Interagency Coordination**

Colonel Matthew Bogdanos, in a 2007 paper on "Transforming Joint Interagency Coordination" cited "an almost systemic and often self-imposed lack of coordination and information sharing among governmental agencies" as a contributing factor in the

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<sup>35</sup> Based on the author's experience in applying for DHS UASI grants in the 2005 and 2006 grant cycle.

tragedy of September 11, 2001.<sup>36</sup> This observation highlights the importance of interagency coordination. Even aside from its importance, the academic study of interagency coordination provides a unique opportunity: students participating in an undergraduate HLS program may well have knowledge of, or membership in, a variety of governmental and non-governmental organizations. Asking these students to explore interagency coordination provides an academic platform for improving the coordination cited by COL Bogdanos as being important. This could be one of the “values added” by involving academia in developing the future HLS bench.

## **6. Strategic Planning and Budgeting**

Strategic planning has tendrils that extend into the social sciences, economics, public administration, and emergency management. Again there are some unique opportunities for institutions to exploit existing resources. With the flow of grant money from DHS to support HLS, the student could use not only some exposure to budgeting and grants, but further education in how to tie the money to long term strategy. One of the expectations of the HLS leader – training for which can be acquired through academia – is to have a vision that translates into long term planning that results in a better prepared and more resilient community.<sup>37</sup>

## **7. Intelligence**

The intelligence process has relevance to several of the other recommended topical areas. For example, intelligence provides much of what we know of the terrorist threat and provides information that allows HLS leaders to develop future plans. The study of the legal and civil rights issues associated with HLS includes the activities of the intelligence community. Implicit in purported civil rights abuses is the related topic of intelligence oversight and how much intelligence intrusion into the lives of U.S. citizens is appropriate. With the fusion center initiative fostered by DHS, there will be many

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<sup>36</sup> Matthew Bogdanos, “Transforming Joint Interagency Coordination,” (Center for Technology and National Security Policy, 2007), 1.

<sup>37</sup> Based on the author’s experience developing Emergency Management vision and translating that into plans for a more resilient community.

opportunities for the future HLS leader to be involved in intelligence either directly or indirectly. The future HLS leader will need to understand how intelligence is collected, how it should be used, by whom and for what purpose. Academia could supply an appropriate platform for the future HLS leader to explore the role of intelligence, intelligence information sharing, intelligence oversight, and the ethics of intelligence. The future HLS leader could also learn some of the fundamentals of intelligence acquisition, processing, and classification.

## **8. The Study of HLS**

HLS is a fairly young discipline. It does not have a well-established professional organization to provide a forum for establishing standards or furthering the interest of the practitioners. Academic programs can provide an opportunity to study the developmental history as well as prepare for potential futures of HLS. Research in the discipline is still somewhat limited, and undergraduate HLS students can conduct some preliminary inquiry that would benefit their skill set while contributing to the research agenda for the discipline. As a result, having undergraduate students explore the field may provide the insight necessary to foster the creativity and skill of emerging leaders. As students pursue the study of HLS, they can contribute to prioritization of current issues and help identify emerging issues that could confront these future leaders. As a relatively young discipline, there is an opportunity for academic institutions to guide students to aid in the development of standards for the discipline.

If one accepts the need for some minimum standards for the core curriculum of an undergraduate HLS program, the next question is one of how to gain acceptance of these standards by academic institutions. One method of integration would be to include these minimum standards as part of program accreditation. Program accreditation, as opposed to institutional accreditation, brings with it multifaceted areas for discussion. The concept of accreditation will not be explored in depth in this thesis, but a brief overview follows to round out the curriculum discussion.

## 9. The Role of Accreditation in HLS Academics

There are many opinions regarding the role of accreditation, two of which will be noted here. First, accreditation brings constraints that precipitate resistance. In other disciplines, accreditation equates to specified class sizes, instructor qualifications, and library and support resources that could place a burden on the institution and create a host of other issues depending on the accrediting body. According to the Accreditation Board for Engineering and Technology (ABET), an accrediting body for applied science programs, their accreditation process includes the following:

- Staffing levels and qualifications, including holding a doctoral degree
- Facilities, to include classrooms, labs, and associated equipment
- Program specific minimum required skills.<sup>38</sup>

This creates a situation in which academics may be supportive but administrators could balk. According to George Felkens, who has studied the accreditation of Criminal Justice programs, “The negative attitude of institutional presidents is a problem. Their main objections are the costs involved and the proliferation of accreditation agencies.”<sup>39</sup> Lack of accreditation allows an institution to stand up an HLS program consisting of courses from other disciplines cobbled together into a package. As stated earlier, there are many opportunities to leverage existing courses that would support the priorities identified in this thesis. However, it is this approach that started the accreditation movement for criminal justice programs in the 1970s. With federal monies available to support professionalizing police work, “...criminal justice on most campuses...taught (criminal justice as a)...’cash cow’.”<sup>40</sup>

The opposing opinion would support accreditation of HLS undergraduate degree programs by an HLS professional organization. The first plank of this opinion would be exclusivity and rarity. If quality HLS undergraduate degree programs were common, they would command a diminished value. Instead, if a quality degree meeting a rigorous

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<sup>38</sup> Accreditation Board for Engineering and Technology, <http://www.abet.org/> (accessed February 26, 2008).

<sup>39</sup> George Felkens, “Accreditation: Is it necessary? Yes!” *Journal of Criminal Justice* 8 (1980), 84.

<sup>40</sup> James Finckenauer, “The Quest for Quality in Criminal Justice Education,” *Justice Quarterly* 22, no. 4 (December 2005): 415.

accreditation standard were rare and exclusive, then the inherent value is much higher. This has two economic factors. The institution that offers fairly exclusive and rare degrees can selectively attract students and can leverage monetary resources. According to WORLDWIDELEARN.COM, one of the benefits of accreditation is that it opens opportunities for financial aid. “Students are only able to obtain federal financial assistance if the institution they are attending has achieved appropriate accreditation....”<sup>41</sup> The student with such a degree can capitalize on the degree when seeking employment and promotion. This would be like an engineering degree from MIT or a law degree from Harvard School of Law. This also relates to how the discipline views the degree. If there are no standards, then a degree in HLS may have vague or no meaning to the discipline. As an employer, it would be beneficial to know that an applicant (and graduate) has met a minimum standard in education that is recognized in the field. Consumer protection is another cited reason that supports accreditation. Again from Felkens’ work on criminal justice program accreditation, there is a “concern that students, parents and taxpayers receive a reasonable return for the cost.”<sup>42</sup> The accredited degree also builds the professional status of the discipline itself. Most recognized disciplines – such as architecture, forestry, journalism, psychology, and social workers to name a few – have educational standards.<sup>43</sup> This is a truncated discussion of accreditation, but the concept is mentioned as it relates to establishing standards for core HLS undergraduate curriculum.

## **10. Financing a Program**

Someone has to pay the bill. If the federal government places a priority on developing the future leaders in HLS, as was indicated by the DHS chief learning officer (noted in the introduction to this chapter),<sup>44</sup> then there should be some infusion of funds on behalf of the government. The question is: how to do this in the most effective way?

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<sup>41</sup> “Accreditation Process and Benefits of Accreditation,” *worldwidelearn.com*, 4, <http://www.worldwidelearn.com/accreditation/accreditation-process-benefits.htm> (accessed February 5, 2008).

<sup>42</sup> Felkens, “Accreditation: Is it necessary?” 85.

<sup>43</sup> *Ibid.*, 78.

<sup>44</sup> DHS Science and Technology, DHS website.

One option is to provide grants directly to institutions. There are several undergraduate HLS programs in existence, and while at some point in the future student demand may exceed existing resources, the solution may not be the infusion of money directly to institutions to foster additional programs. This approach would also be counter to a consumer-driven market which manifests programmatic natural selection. With the exception of those who only want a diploma and not an education, a consumer-driven market would also help shape the future of HLS education.

Another funding option is for DHS to provide scholarships directly to potential future leaders to attend HLS academic programs. This concept also has drawbacks, the most obvious of which is the responsibility for managing this program would fall on DHS personnel. One could argue that adding that responsibility to an already full list of responsibilities might be problematic.

There is the option of using an entity that is accustomed to managing this type educational support: the National Science Foundation (NSF). The National Science Foundation (NSF), an independent federal agency, was created by Congress in 1950 “to promote the progress of science; to advance the national health, prosperity, and welfare; [and] to secure the national defense.”<sup>45</sup> Support for HLS academic programs falls within this charge, and funding could be made available similar to the NSF funding for the Cyber-infrastructure Education program.<sup>46</sup> This would allow individual students to apply for support; it would also facilitate the coordination of research that augments HLS academics. NSF, as an independent body, would not be as susceptible to changing political winds as other entities. Support from a renowned institution like NSF would also help further the assertion that HLS is a professional discipline.

An alternative to the funding support could be to include HLS education as an authorized use of DHS grant money awarded to states and Urban Area Security Initiative (UASI) regions. This would facilitate federal support of academics in the development of HLS leaders, yet buffer federal influence by channeling the money through the states.

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<sup>45</sup> National Science Foundation, <http://www.nsf.gov/about/> (accessed December 19, 2007).

<sup>46</sup> Ibid., (accessed February 26, 2008).



This would enhance a state's ability to develop their HLS bench, as well as give the state a mechanism to support HLS programs in state-sponsored higher learning institutions. States could assist in the process of insuring a minimum standard for programs. Most states have a mechanism already in place for the granting of scholarships. States could help prioritize students pools based on the needs of state, local, and private demand for future HLS leaders. State-level fund management could be susceptible to state and local political whims, but the same mechanism could be used to set local HSL priorities.

### **11. Accessing a Body of Knowledge**

In addition to the research that is a key component of HLS education, there must be a body of knowledge and research that will provide support unique to the HLS field of study. Each institution desirous of having an HLS undergraduate program could endeavor to build the necessary library resources to support a program. However, another option is available that would augment institutional resources: the Homeland Security Digital Library (HSDL) hosted by the Naval Postgraduate School could serve as the core, and the national model, for the resource pool that would support the discipline. HSDL has a direct line to some of the most contemporary research done in the field by virtue of its association with the CHDS graduate program. Because of its web-based access, and providing it continues to flourish, HSDL could provide the necessary support to a variety of institutions with HLS programs (as is currently being done through university partnerships).

## **E. CONCLUSION**

Academic institutions can and should explore and expand the field of HLS education. However, there should be some baseline standards for what should be included in an undergraduate program, whether for the sake of the market, the discipline, or the academic standard. These recommendations, as summarized in this thesis, are based on a systematic study of existing programs, an analysis of current texts, and the opinions of those either involved or potentially involved in the field.

There are times that the ultimate concept must be accepted on faith alone. The idea that HLS makes our country safer, and the idea that HLS leaders need the right mix of education and training to optimize their effectiveness, are two such concepts – acceptable but not yet proven. Although the research supporting the recommendations and conclusions in this thesis may at some time in the future be refuted or validated, the basic idea that education has a role in developing future HLS leaders, and the idea that these leaders, armed with certain skills, will contribute to the future security of America, seems to resonate with those who have faith in HLS.

## APPENDIX A. CHAPTER III SUPPORTING DATA

University	Courses
American Public University - Charles Town, WV	Emergency Planning Emergency Response to Terrorism Chemical, Biological, & Radiological Hazards Weapons of Mass Destruction Incident Command Senior Seminar in Homeland Security Homeland Defense Consequence Management Public Policy Homeland Security Organization Research, Analysis, and Writing Principles and Theory of Security Management Risk Analysis and Loss Prevention Border and Coastal Security IT Security: Attack and Defense Regulatory Issues in Weapons of Mass Destruction Cyber Law and Privacy in the Digital Age Chemical and Biological Defense The International Terrorist Intermediate Terrorism Islamic Fundamentalism Threat Analysis Intelligence and Homeland Security Cyber Warfare Hazardous Materials Management Risk Communications Port Security Community Fire Mitigation and Protection Fire Safety and Risk Reduction Psychology of Disaster Foreign Intelligence Organizations Chemistry of Hazardous Materials Quarantine
Arizona State University East - Polytechnic Campus - Mesa, AZ	Environmental Management Introduction to Emergency Management Managing Natural & Technological Disasters Computer Applications in Emergency Management Toxicology & Biohazards for Emergency Management Incident Management Systems & Emergency Operations Center Homeland Security Simulators and Exercising
Arkansas Tech University - Russellville, AR	Living in a Hazardous Environment. Aim and Scope of Emergency Management. Citizen/Family/Community Disaster Preparedness Education. Developing Emergency Management Skills. Public Policy Issues in Emergency Management. Principles and Practice of Disaster Planning and Response Operations. The Social Dimension of Disaster. Public Information Skills.

University	Courses
	Applied Principles of Personnel Management The Economics of Disaster Externship Introduction to Terrorism Principles and Practice of Disaster Relief and Recovery Business and Industry Crisis Management. Information Technology and Emergency Management Emergency Management Research Methods/Analysis Disaster and Emergency Management Ethics Community Management of Hazardous Materials Practicum/internship Special Problems and Topics
Austin Peay State University - Fort Campbell, KY	Terrorism & The Law Network Security Terrorism: Understanding the Threat Domestic Terrorism International Terrorism Management of Incidents of Terrorism Terrorism Prevention
Canyon College - Caldwell, ID	Homeland Security Security Management Physical Security Contingency Planning/Crisis Management Terrorism Basic Information Assurance/Computer Security Counter-Espionage Executive Protection Leadership Issues in Homeland Security Ethics in Homeland Security Workplace Violence Prevention and Reaction Maritime Security Transportation Security Supply Chain Security Homeland Security Training and Development Research in Homeland Security Investigating Terrorist Incidents Lessons Learned from the 9-11 Commission
East Carolina University	Introduction to Security Studies Senior Seminar in Security Studies National Security Policy Politics of Terrorism Introduction to Environmental Health Science Emergency Planning Management Introduction to Environmental Health Science Political Geography Fundamental of GIS U.S. and the Middle East Fundamentals of Network Security Criminal Justice Systems Cost and Capital Project Analysis Planning for the Human Environment Introduction to GIS in Planning Emergency Planning Management

University	Courses
	American Foreign Policy National Security Policy Conflict and Peace in Post Cold War Age International Organizations Topics in International Politics Politics of Terrorism War in the Modern Age Population Trends and Problems
Eastern Kentucky University Justice and Safety Center - Richmond, KY	Introduction to Homeland Security Emergency Management Legal & Ethical Issues in Homeland Security Critical Infrastructure Protection Critical Problem Analysis Cyber Security Intelligence Analysis Prevention & Problem Solving Disaster Recovery Cooperative Study Special Topics Homeland Security Technology Field Experience Independent Study Vulnerability and Risk Assessment WMD/Hazardous Materials Disaster Medical Operations Terrorism/Counterterrorism Terrorism and Political Violence
Empire State College (State University of New York) - Saratoga Springs, NY	Introduction to Emergency Management Introduction to Emergency Planning Emergency Communications Disaster and Fire Defense Planning Managerial Issues in Hazardous Materials Bioterrorism Protecting America: Cases and Controversies Mass Disasters: Implications for Public Health Mass Disasters: Implications for Public Policy Mass Disasters: Implications for Public Safety Organization and Management of Disaster Response Perspectives on Terrorism Psycho-Social Impacts of Mass Disasters Privacy, Security and Freedom: Social Concerns for the 21st Century Crime and Intelligence Analysis Risk Analysis and Hazard Mitigation Business Continuity Planning and Disaster Recovery Cyber Crime and Computer Forensics Security Management Fire and Western Civilization Organizational Behavior Managerial Leadership Public Finance and Budgeting Politics and Leadership in the Bureaucracy Program Planning and Evaluation

University	Courses
	The Middle East
Excelsior College - Albany, NY	International Terrorism Domestic Terrorism Managing Homeland Security Cyber/White Collar Crimes Counterterrorism Security Planning And Assessment
Florida Metropolitan University - Orlando, FL	<i>No longer has program</i>
Grantham University	Understanding Terrorism Principles of Terrorism Terrorism and U.S. National Security Border and Coastal Security Elements and Issues in Counterterrorism Emergency Planning
Herzing College	Domestic Terrorism International Terrorism Cybercrime Violence in the Workplace Hazardous Material Management Criminal Investigation Evidence Forensics Fire Service Emergency Management Incident Command System Public Event Planning Computer Forensics Intelligence Gathering/Surveillance
Indiana University of Pennsylvania	Science of Disaster Response- <i>no courses related to HLS curriculum</i>
Jackson State University	Legal Fundamentals in Emergency Management and Homeland Security Introduction to Terrorism Public Information in Emergency Management Transportation Security Management Systems in Disaster Critical Infrastructures Current Issues in Homeland Security Planning and Preparedness for Homeland Security Introduction to Weapons of Mass Destruction
John Jay College	<i>Fire focused, not a Homeland Security Program</i>
Louisiana State University	Hazards and the Environment Fundamentals of Emergency Management Coastal Engineering Hurricane Engineering Technology and Emergency Management Disaster Science and Management Internship Crisis Management Research in Disaster Science and Management Directed Readings in Disaster Science and Management Quantitative Risk Assessment Geographic Information Systems

University	Courses
	Family Stress Management Introduction to International Studies Planning Disaster Resilient Communities International Conflict and Cooperation International Politics of the Middle East Comparative Politics of the Middle East The Religion of Islam Fundamentalisms and Religious Nationalism Introduction to International Politics International Conflict and Cooperation International Politics of the Middle East Comparative Politics of the Middle East Psychology of Counseling Selected Topics in Sociology: The Sociology of Terrorism
Massachusetts Maritime Academy	Intro to Emergency Management Infectious Agents Risk Assessment Radiological Materials Natural Hazards Toxicology Public Health Issues in EM Technological Hazards Crisis Communications Consequence Management IT in EM Operations Emergency Management Capstone
Mountain State University	Aviation Security Intro to Terrorism and HS Investigating Domestic Terrorism HS Techniques & Technologies Laws & Regulations in HS Investigating Intl Terrorism Comparative CJ Systems Countering Terrorism
National Graduate School	<i>Certificate program</i>
National University	Survey of Domestic Security Management Criminal Justice Management and Leadership International and Domestic Terrorism Information Security Land Borders, Seaports, and Airport Security Crisis Response Planning and Management Disaster Management Legal Issues of Security Management
Ohio State University	Media & Terrorism Food Security & Globalization Geography of Transportation Security Modern Intelligence History Bio-terrorism Terror & Terrorism Development & Control of Weapons of Mass Destruction Sociology of Terrorism

University	Courses
Savannah State	Introduction to Homeland Security and Emergency Management Politics and Policies of Homeland Security and Emergency Management Law and Ethics in Homeland Security and Emergency Management Introduction to Planning / Applications of Geographic Information Systems Social Diversity Issues in Homeland Security and Emergency Management Risk and Vulnerability Assessment for HSEM Terrorism in the Modern World Tools for Decision Making in HSEM The Intelligence Community and the Intelligence Process Independent Study Mediation and Consensus Building Skills for Homeland Security and Emergency Management Topics in Homeland Security and Emergency Management International Humanitarian Law Social Psychology Information Security and Assurances Mass Media and Society State and Local Government Civil Rights and Liberties Politics of Less Developed Countries Politics of the Middle East American Foreign Policy
Southwestern College	Introduction to Security Physical Security Information Security Homeland Security Fundamentals Loss Prevention and Crime Prevention Legal Aspects of Security Emergency Planning Terrorism-Motivations and Adversaries Security Investigation Techniques Computer Forensics and Cyber-Crime Developing Workforce Talent Adults in Transition Organizational Leadership Organizational Behavior
Thomas Edison State College	Civil Defense Systems/Programs./Policies Fire Related Human Behavior Developing Fire & Life Safety Strategy Incident Command System Earth Sciences for Emergency Managers Manmade Hazards Emergency Planning Course Natural Hazards Mitigation & Recovery Executive Development for Emergency Program Managers Hazardous Materials Tactical Consideration Community Fire Protection: Planning Health Effects Ionizing Radiation Crisis Communication



University	Courses
	Occupational Health & Safety Emergency Medical Service & Administration Radiological Accident Assessment Emergency Operations Radiological Emergency Preparedness Plan Emergency Planning & Methodology Radiological Emergency Response & Operations Emergency Preparedness Laws & Regulations Radiological Monitors Instructor Exercise Design
Triffin University	Weapons of Terrorism Information Security Emergency Organizations and Management Counterintelligence/Counter-terrorism Crime Analysis Homeland Security and the Legal System Introduction to National Security Studies History of Terrorism Covert Action & Intelligence Intelligence Analysis
Tulane University	Homeland Security Health & Medical Issues in Emergency Management Domestic and International Terrorism Emergency Management Intelligence Research, Method & Analysis Critical Infrastructure Protection Transportation and Border Security Intelligence Analysis/Critical Thinking Homeland Security & Approaches to Counter-Terrorism Maritime & Border Security
UMassOnline	<i>Certificate Program</i>
University of Akron	Principles of Emergency Management Current Topics in Emergency Management Emergency Response Preparedness and Planning Maps and Map Reading Disaster Victims: Casualties & Recovery Geographic Information Systems Introduction to Planning Emergency Management Research Methods and Applications Hazard Prevention and Mitigation Internship: Emergency Management Disaster Relief and Recovery Current Topics in Emergency Management
University of Central Florida	Intergovernmental Administration Emergency Management and Homeland Security Information Systems for Public Managers and Planners Disaster Response and Recovery Hazard Mitigation and Preparedness Conflict & Terrorism Health Issues in Disasters
University of Central Missouri	Crisis & Disaster Management Community Mitigation and Recovery

University	Courses
	Disaster Management Technology Integrated Emergency Management Research Issues in C&DM Directed Studies: Technology App. Special Projects: Field Exercises Internship in Crisis & Disaster Management Emergency Preparedness Emergency Response Disaster and Society
University of Findlay	<i>Graduate certificate, undergraduate program in Environment, Safety, and Occupational Health</i>
University of Maryland University College	Introduction to Homeland Security Strategic Planning in Homeland Security Legal and Political Issues of Homeland Security Infrastructure Security Issues International Security Issues Homeland Security Policy and Strategies Epidemiology of Emerging Infections Information Systems and Security Concepts of Emergency Management Exercise and Evaluation Programs Continuity of Operations Planning and Implementation Disaster Recovery Planning Computer Crime and Security Counterterrorism Terrorism, Antiterrorism, and Homeland Security Security Issues and Emerging Technologies Social Dimensions of Disaster International Political Relations
University of North Texas	Current Issues in Emergency Management. Introduction to Emergency Management. Hazard Mitigation and Preparedness Disaster Response and Recovery Leadership and Organizational Behavior Hazardous Materials Planning and Management Public Health and Disasters Flood Plain Management The Federal Government and Disasters Private Sector Issues International Disasters Special Populations and Disasters Technology in Emergency Management Terrorism and Emergency Management
University of Richmond	Integrated Emergency Services in the Community Emergency Planning Disasters, Characteristics and Physical Impacts Managing Emergency Operations Terrorism Emergency Management Systems and Theory Disaster Exercises Defending Communities - Integrating Mitigation, Preparedness and Recovery Weapons of Mass Destruction

University	Courses
	Emergency Operations Center Design, Management and Operation Homeland Defense Policy and Programs Terrorism Law
Upper Iowa Univ	Management Principles Supervision Principles of Emergency Management Political and Policy Basis of Emergency Management Emergency Preparedness & Planning Disaster Response and Recovery Integrated Emergency Management Principles and Practice of Hazards Mitigation Public Budgeting Process Psychology of Disaster Senior Project
Vincennes University	Supervision/Management Public Policy for Homeland Security and Public Safety Homeland Security Constitutional Law Cultural Diversity Homeland Security & Public Safety Seminar Weapons of Mass Destruction Research Methods Introduction to Terrorism Capstone Experience Contemporary Ethical Issues Crisis and Disaster Issues in Homeland Security and Public Safety Supervision/Management Social Deviance
Virginia Commonwealth University	Homeland Security and Emergency Preparedness U.S. Government International Relations Terrorism Emergency Planning and Incident Management Risk and Vulnerability Assessment Strategic Planning for Homeland Security and Emergency Preparedness The Intelligence Community and the Intelligence Process Legal & Constitutional Issues in Homeland Security & Emergency Preparedness Forensic Criminology Principles of Criminal Investigation Criminalistics and Crime Analysis Crime Scene Evidence: Law and Trial Procedure Comparative Criminal Justice Systems Case Studies in Criminal Procedure Regulatory Aspects of Safety and Risk Control System Safety Risk and Insurance Incident Investigation and Analysis Issues in Risk Management and Insurance Government and Public Affairs Internship

University	Courses
	Topics in Homeland Security and Emergency Preparedness Advanced Topics in Homeland Security and Emergency Preparedness Public Policy State and Local Government and Politics Intergovernmental Relations Governments and Politics of the Middle East Latin American Governments and Politics International Organizations and Institutions U.S. Foreign Policy Introduction to Public Planning Environmental Management Policy Implementation Introduction to Geographic Information Systems Urban Transportation Systems
West Texas A&M University	<i>No program listed</i>
Western Carolina University	Introduction to Emergency Management Methods of Research and Writing Emergency Planning Risk Assessment and Vulnerability Analysis Principles of Hazard Mitigation Political and Policy Basis of Emergency Management Applied Research Senior Seminar Social Dimensions of a Disaster Resource Management The Criminal Justice System Asset Protection Homeland Security Terrorism Emergency Exercise Design and Evaluation Legal Aspects of Emergency Management Case Studies in Emergency Management Independent Study in Emergency Management Emergency Management Internship Topics in Emergency Management Emergency Medical Service Management Occupational Safety Hazards State and Local Government Public Administration

Figure A1-1. Institutions offering Homeland Security Baccalaureate Programs

<b>Topic</b>	<b>APU</b>	<b>atu</b>	<b>apsu</b>	<b>cc-id</b>	<b>Cor</b>	
Before, during, after attack	x	x			x	3
Civil Military						
Civil Rights/legal/ethics		x		x		2
Comparative government						
Cyber security	xxx		x	xx		6
Decision making						
Dept of Homeland Security	x					1
Emergency Management		xxx	x			4
Engineering and HLS						
Exercise, training, and modeling				x		1
Federal role in HLS						
Geospatial						
Homeland Security	xx			xxx		5
Human resources		x				1
Intelligence and HLS	xx			x		3
Interagency coordination						
Leadership				x		1
Media, risk communications and HLS	x	x				2
Private Sector in HLS		x				1
Psychology of HLS	x				x	2
Public health	x					1
Risk analysis	xx				x	3
Role of communities		x				1
Role of the individual in HLS		x				1
Sociology (politics)		x				1
State and local role in HLS						
Strategic plan/budget	xx	x		x		4
Technology for HLS		x				1
Terrorism	xxx	x	xxxxx	xx		10
Transportation and HLS	x			x		2

<b>Topic</b>	<b>Ecu</b>	<b>ekuj</b>	<b>esc</b>	<b>Excel</b>	
Before, during, after attack		x			1
Civil Military					
Civil Rights/legal/ethics		x	x		2
Comparative government	x				1
Cyber security	x	x	x	x	4
Decision making		x			1
Dept of Homeland Security					
Emergency Management		x	xx		3
Engineering and HLS					
Exercise, training, and modeling					
Federal role in HLS					
Geospatial	xx				2
Homeland Security		x		x	2
Human resources					
Intelligence and HLS		x	x		2
Interagency coordination					
Leadership					
Media, risk communications and HLS			x		1
Private Sector in HLS					
Psychology of HLS			x		1
Public health		x	x		2
Risk analysis		x	x		2
Role of communities					
Role of the individual in HLS					
Sociology (politics)	x		x		2
State and local role in HLS					
Strategic plan/budget	xx		xxx		5
Technology for HLS		x			1
Terrorism	x	x	xx		4
Transportation and HLS					

<b>Topic</b>	<b>tesc</b>	<b>GU</b>	<b>Herzing</b>	<b>jsu</b>	
Before, during, after attack				x	1
Civil Military					
Civil Rights/legal/ethics	x			x	2
Comparative government					
Cyber security	x		x		2
Decision making					
Dept of Homeland Security					
Emergency Management	x		x		2
Engineering and HLS					
Exercise, training, and modeling					
Federal role in HLS					
Geospatial					
Homeland Security				x	1
Human resources					
Intelligence and HLS	x		x		2
Interagency coordination					
Leadership	x				1
Media, risk communications, and HLS				x	1
Private Sector in HLS					
Psychology of HLS	x				1
Public health					
Risk analysis	x				1
Role of communities					
Role of the individual in HLS					
Sociology (politics)	x				1
State and local role in HLS					
Strategic plan/budget	xx	x		x	4
Technology for HLS					
Terrorism	x	xxxx	xx	x	8
Transportation and HLS				x	1

<b>Topic</b>	<b>LSU</b>	<b>mma</b>	<b>msu</b>	<b>Nat univ</b>	
Before, during, after attack		x		xx	3
Civil Military					
Civil Rights/legal/ethics			x	x	2
Comparative government					
Cyber security				x	1
Decision making					
Dept of Homeland Security					
Emergency Management	x	xx		xx	5
Engineering and HLS					
Exercise, training, and modeling					
Federal role in HLS					
Geospatial	x				1
Homeland Security					
Human resources					
Intelligence and HLS					
Interagency coordination					
Leadership					
Media, risk communications, and HLS		x			1
Private Sector in HLS					
Psychology of HLS	xx				2
Public health		xxx			3
Risk analysis	x	x			2
Role of communities	x				1
Role of the individual in HLS	x				1
Sociology (politics)	x				1
State and local role in HLS					
Strategic plan/budget					
Technology for HLS	x		x		2
Terrorism			xxx	x	4
Transportation and HLS			x	x	2



<b>Topic</b>	<b>osu</b>	<b>Sav st</b>	<b>swc</b>	
Before, during, after attack				
Civil Military		x		1
Civil Rights/legal/ethics		x	x	2
Comparative government				
Cyber security			x	1
Decision making		x		1
Dept of Homeland Security				
Emergency Management				
Engineering and HLS				
Exercise, training, and modeling				
Federal role in HLS				
Geospatial		x		1
Homeland Security		xx	xx	4
Human resources			x	1
Intelligence and HLS	x	xx		3
Interagency coordination		x		1
Leadership			x	1
Media, risk communications and HLS	x			1
Private Sector in HLS				
Psychology of HLS		x		1
Public health				
Risk analysis		x		1
Role of communities				
Role of the individual in HLS				
Sociology (politics)		xx		2
State and local role in HLS		x		1
Strategic plan/budget		x	x	2
Technology for HLS				
Terrorism	xxxx	x	x	6
Transportation and HLS	x			1

<b>Topic</b>	<b>Ucf</b>	<b>ua</b>	<b>tulane</b>	<b>tu</b>	
Before, during, after attack	xx	xx	x		5
Civil Military					
Civil Rights/legal/ethics				x	1
Comparative government					
Cyber security					
Decision making					
Dept of Homeland Security					
Emergency Management	x	xxx			4
Engineering and HLS				x	1
Exercise, training, and modeling					
Federal role in HLS					
Geospatial		x			1
Homeland Security			x		1
Human resources					
Intelligence and HLS			xxx	xx	5
Interagency coordination	x				1
Leadership					
Media, risk communications, and HLS					
Private Sector in HLS					
Psychology of HLS		x	x		2
Public health	x				1
Risk analysis					
Role of communities					
Role of the individual in HLS					
Sociology (politics)					
State and local role in HLS					
Strategic plan/budget		x			1
Technology for HLS					
Terrorism	x		x	xx	4
Transportation and HLS			x		1

<b>Topic</b>	<b>ur</b>	<b>unt</b>	<b>umuc</b>	<b>ucm</b>	
Before, during, after attack	x	xx	xx	xxx	8
Civil Military					
Civil Rights/legal/ethics			x		1
Comparative government					
Cyber security			xx		2
Decision making					
Dept of Homeland Security					
Emergency Management	xx	xx	x	xx	7
Engineering and HLS					
Exercise, training, and modeling	x			x	2
Federal role in HLS		x			1
Geospatial					
Homeland Security			x		1
Human resources					
Intelligence and HLS					
Interagency coordination					
Leadership		x			1
Media, risk communications, and HLS					
Private Sector in HLS		x			1
Psychology of HLS					
Public health		x	x		2
Risk analysis					
Role of communities	x				1
Role of the individual in HLS					
Sociology (politics)			x	x	2
State and local role in HLS					
Strategic plan/budget	x		xx		3
Technology for HLS		x	x	xxx	5
Terrorism	xx		xx		4
Transportation and HLS					

<b>Topic</b>	<b>wcu</b>	<b>vcu</b>	<b>vu</b>	<b>uiu</b>	
Before, during, after attack				xx	2
Civil Military					
Civil Rights/legal/ethics	x	x	xx		4
Comparative government					
Cyber security					
Decision making					
Dept of Homeland Security					
Emergency Management	xxxx			xx	6
Engineering and HLS					
Exercise, training, and modeling	x				1
Federal role in HLS					
Geospatial		x			1
Homeland Security	x	xx	xxxx		7
Human resources					
Intelligence and HLS		x			1
Interagency coordination					
Leadership			x	x	2
Media, risk communications, and HLS					
Private Sector in HLS					
Psychology of HLS				x	1
Public health					
Risk analysis	x	xx			3
Role of communities					
Role of the individual in HLS		x			1
Sociology (politics)	xx	x		x	4
State and local role in HLS	x	x			2
Strategic plan/budget	x	xx		xx	5
Technology for HLS					
Terrorism	x	x	x		3
Transportation and HLS		x			1

Figure A1-2. Courses by category by institution

<b>Frequency</b>	<b>Category</b>
43	Terrorism
31	Emergency Management
24	Strategic Plan/budget
23	Before, during, after ATK
21	Homeland Security
16	Civil Rights/legal/ethics
16	Cyber security
16	Intelligence and HLS
13	Sociology (politics)
12	Risk analysis
10	Psychology of HLS
9	Public health
9	Technology for HLS
8	Transportation and HLS
6	Geospatial
6	Leadership
6	Media, risk communications &HLS
4	Exercise, training and modeling
3	Role of communities
3	Role of the Individual in HLS
3	State and local role in HLS
2	Human resources
2	Interagency coordination
2	Private Sector in HLS
1	Civil Military
1	Comparative government
1	Dept of Homeland Sec
1	Engineering and HLS
1	Fed role in HLS
2	Decision making

Figure A1-3. Repetitive course frequency

<b>Frequency</b>	<b>Category</b>
23	Terrorism
17	Emergency Management
16	Strategic Plan/budget
15	Civil Rights/legal/ethics
14	Before, during, after ATK
12	Cyber security
12	Homeland Security
11	Intelligence and HLS
11	Sociology (politics)
9	Risk analysis
8	Psychology of HLS
8	Transportation and HLS
7	Public health
6	Leadership
6	Media, risk command HLS
5	Geospatial
4	Exercise, training and modeling
4	Technology for HLS
3	Role of communities
3	Role of the Individual in HLS
3	State and local role in HLS
2	Decision making
2	Human resources
2	Interagency coordination
2	Private Sector in HLS
1	Civil Military
1	Comparative government
1	Dept of Homeland Sec
1	Engineering and HLS
1	Fed role in HLS

Figure A1-4. Non-repetitive frequency count

## APPENDIX B. CHAPTER IV SUPPORTING DATA

ISBN	Institution
006009012x	Canyon College
007144064x	Jacksonville State University
007287306x	AUSTIN PEAY STATE UNIVERSITY
012241540x	University of Central Missouri
012241540x	Canyon College
0023017317	Canyon College
0028740912	Jacksonville State University
041512204x	University of Central Missouri
047148699x	University of Richmond
0060505338	Virginia Commonwealth University
0066620813	University of Central Missouri
0070240205	Virginia Commonwealth University
0071446656	Western Carolina University
0071446656	Vincennes University
0071446656	University of North Texas
0071446656	Ohio State University
0072949554	Eastern Kentucky University
0073040776	Massachusetts Maritime Academy
0073527710	Triffin University
075068514x	AMERICAN PUBLIC UNIVERSITY
083303149x	University of Richmond
084937829x	AUSTIN PEAY STATE UNIVERSITY
097685760x	University of Central Missouri
0123705037	Western Carolina University
0123705037	University of Maryland University College
0130462824	University of Richmond
0130462824	Triffin University
0130494135	Empire State College
0130494135	AUSTIN PEAY STATE UNIVERSITY
0130656461	University of Central Missouri
0130907585	AUSTIN PEAY STATE UNIVERSITY
0130975195	Empire State College
0131141376	Canyon College
0131174528	Vincennes University
0131703560	Tulane University
0131711296	Eastern Kentucky University
0131930636	Triffin University
0131961838	Empire State College
0132294125	Vincennes University
157356138x	University of Central Missouri
0195095707	AMERICAN PUBLIC UNIVERSITY
0195142632	University of Central Missouri
0195158342	Empire State College
0195332474	Virginia Commonwealth University
0195332474	Ohio State University
0201479486	University of Central Missouri

<b>ISBN</b>	<b>Institution</b>
0205337449	University of Akron
0205405819	Canyon College
0226066660	Empire State College
0226108597	University of North Texas
0226534219	University of Central Missouri
0231114699	Virginia Commonwealth University
0231114699	University of Akron
0231126999	Upper Iowa University
0262083272	Virginia Commonwealth University
0275992309	Eastern Kentucky University
0300044852	University of Central Missouri
0309063604	University of Central Missouri
0309063604	University of Akron
0309063604	Jacksonville State University
0309063604	Jacksonville State University
0309069998	Jacksonville State University
0309101786	University of Central Missouri
0324312857	University of Richmond
0333722108	AMERICAN PUBLIC UNIVERSITY
0387026206	Triffin University
0393326713	AMERICAN PUBLIC UNIVERSITY
0398066094	Savannah State University
0398074074	Western Carolina University
0398074074	Empire State College
0415168112	University of North Texas
0415183421	University of Central Missouri
0415301022	Empire State College
0415952441	Virginia Commonwealth University
0465054846	Virginia Commonwealth University
0470127544	Eastern Kentucky University
0471163787	Empire State College
0471772607	University of North Texas
0471772607	University of Central Missouri
0471786283	Triffin University
0471786284	Eastern Kentucky University
0471789747	University of North Texas
0471789747	Upper Iowa University
0471790192	University of Central Florida
0471790198	University of Central Missouri
0471793523	Virginia Commonwealth University
0471920779	University of Maryland University College
0471920779	University of Akron
0471920779	Jacksonville State University
0495093435	AUSTIN PEAY STATE UNIVERSITY
0534621694	Virginia Commonwealth University
0534621694	Empire State College
0534643817	Virginia Commonwealth University
0534643817	University of Central Florida
0534643817	Tulane University
0618446621	University of Richmond
0679747567	University of Central Missouri



<b>ISBN</b>	<b>Institution</b>
0679767320	Virginia Commonwealth University
0691004129	University of Central Missouri
0700609261	Upper Iowa University
0710625960	Empire State College
0714644358	AMERICAN PUBLIC UNIVERSITY
0750670444	Canyon College
0750671130	Virginia Commonwealth University
0750674377	Canyon College
0750676140	Canyon College
0750677872	Virginia Commonwealth University
0750677872	University of Central Florida
0750677872	Tulane University
0750677872	Canyon College
0750678038	Canyon College
0750679611	Virginia Commonwealth University
0750679611	Upper Iowa University
0750679611	Savannah State University
0750679611	Jacksonville State University
0750679611	AMERICAN PUBLIC UNIVERSITY
0750679619	University of Maryland University College
0750679619	University of Akron
0750679619	Southwestern College
0750679619	Massachusetts Maritime Academy
0750679921	Southwestern College
0750679923	Ohio State University
0750698683	Canyon College
0761811826	Western Carolina University
0761811826	University of Central Missouri
0761811826	Massachusetts Maritime Academy
0761924426	University of Central Missouri
0763731298	Empire State College
0765601964	Savannah State University
0765601966	University of Central Missouri
0765601966	AMERICAN PUBLIC UNIVERSITY
0765806363	AMERICAN PUBLIC UNIVERSITY
0786301899	Canyon College
0786868414	Canyon College
0805823875	University of Central Missouri
0805823875	Empire State College
0814472408	University of Central Missouri
0820563811	AUSTIN PEAY STATE UNIVERSITY
0833038915	Savannah State University
0849330230	Triffin University
0849399238	Jacksonville State University
0870784986	Virginia Commonwealth University
0873260824	Western Carolina University
0873261364	Empire State College
0875530451	Empire State College
0884159205	University of Central Missouri
0895261480	AMERICAN PUBLIC UNIVERSITY
0895262754	AMERICAN PUBLIC UNIVERSITY

<b>ISBN</b>	<b>Institution</b>
0928025149	Canyon College
0930242610	University of Richmond
0943875897	Savannah State University
0943875897	Empire State College
0965917452	Jacksonville State University
0966672623	University of Central Missouri
0970688705	Empire State College
1400065516	Canyon College
1401871314	Empire State College
1403972435	Vincennes University
1403972435	Savannah State University
1412927226	Upper Iowa University
1412927226	Southwestern College
1412927226	Savannah State University
1412927226	Jacksonville State University
1412950152	Empire State College
1555535773	Empire State College
1559636025	University of Richmond
1567261612	Upper Iowa University
1568027591	Ohio State University
1568027591	Eastern Kentucky University
1568028881	Savannah State University
1575001446	University of Central Missouri
1586482106	Virginia Commonwealth University
1586482793	Canyon College
1589010183	University of Central Florida
1593453043	Eastern Kentucky University
1593459572	Canyon College
1594579806	Triffin University
1840141050	University of Central Missouri
1850436665	Virginia Commonwealth University
1879102889	University of Central Missouri
1884829252	University of Akron
1929223714	Virginia Commonwealth University
1931332223	University of Maryland University College
1933116021	Virginia Commonwealth University
1933220277	Ohio State University

Figure B1-1. Texts listed by institution

## **APPENDIX C. CHAPTER V SUPPORTING DATA**

The 30 primary topics subjects were asked to rate:

1. Scientific process of analyzing risk (tools that help assess, analyze, prioritize, and mitigate risk to critical infrastructure and key resources);
2. Legal, ethical and civil rights issues for Homeland Security (the exploration of statutory requirements, community expectations and moral obligations as they relate to the practice of homeland security);
3. Study of Homeland Security (Homeland Security: where it's been, where it is, and where it's going);
4. Terrorism (the threat, where it comes from, and how we impact it).
5. Sociology of Homeland Security (e.g., politics, roles, behavior, power, conflict, communication);
6. Study of the Department of Homeland Security (why it was formed, how is it structured, what the structure reveals about the intent)
7. Cyber Security (how this relates to homeland security);
8. Strategic Planning & Budgeting (developing and resourcing the homeland security strategy);
9. Civilian & Military Relationships (how the military fits into the domestic homeland security effort);
10. Comparative Homeland Security (how other nations address homeland security and what can we learn from them);
11. Federal Role in Homeland Security (how the various federal departments and agencies support the homeland security strategy);
12. Before, during and after an Attack (exploring the prevention, preparation, response, mitigation and recovery planning cycle as it relates to all hazards);
13. Private Sector Role in Homeland Security (the role of private industry, privately owned utilities, private business, and non-governmental organizations in homeland security);
14. Public Health & Medical Issues (the contributions of public health, and how the medical system impacts homeland security);
15. Role of State and Local Governments (exploring the responsibilities of state, local and tribal authorities to homeland security);
16. Homeland Security Technology (the current and emerging technologies that may contribute to homeland security);
17. Transportation Security (both public and private role of the transportation industry in homeland security);

18. Decision-Making (how homeland security leaders make their assessments and evaluations, and how they make key decisions);
19. Interagency Coordination (collaboration, communication, and synergistic partnerships);
20. Leadership (what is expected of homeland security leaders, and what skill-sets can academia develop in emerging leaders);
21. Media, Risk Communications, Strategic Communications (helping homeland security leaders understand the role of the media, helping them communicate with the media, and how to develop a media plan that supports their overall homeland security strategy);
22. Intelligence and Homeland Security (who collects it, what they collect, who processes it, who distributes it, who receives it);
23. Psychology of Homeland Security (the psychological consequence of the threat to the homeland, and how you mitigate or capitalize on the phenomena);
24. Emergency Management (the role in homeland security of this long standing discipline, and what the future direction should be);
25. Engineering (what this technical science can contribute to prevention, protection, mitigation and recovery);
26. Exercises and Training, Modeling & Simulation (how exercises, training, modeling and simulations can help homeland security leaders improve the safety of their areas of responsibility);
27. Geospatial Dimensions of Homeland Security (how geography and location influence the homeland security posture and how that can be leveraged; what geography can tell us about the threat, both man made and natural, and how this can be used for homeland security);
28. Human Resource Management (human capital is the tool with which the Homeland Security leader provides service; what the homeland security leader can do to maximize and leverage the human resources);
29. Role of Communities in Homeland Security (the role of the community and what it could or should be in support of homeland security);
30. Role of Individuals in Homeland Security (limits on what government should or could do to support homeland security, the role of the individual, what it should be, and how the homeland security leader can develop this resource).

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